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ORIGINAL ARTICLES

THE MODERN TREATMENT OF PULMONARY TUBERCULOSIS; THE SANATORIUM; ITS FUNCTION AND VALUE.

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In the evolution of the modern treatment of tuberculosis the sanatorium plays a most important part. Indeed, it may be said that the modern treatment of tuberculosis is an evolution of the sanatorium rather than the sanatorium of the treatment. It is the only means whereby it can be applied systematically and with any degree of certainty as to results. Its object is to systematize and perfect the treatment in such a way as to give the patient the advantage of every detail, however small, which will tend to keep the balance in his favor instead of its administration in a hit-or-miss haphazard sort of way, as is too frequently done, thus adding immeasurably to the chances of recovery of many patients whose lives are otherwise needlessly sacrificed.

The advantages which sanatorium treatment present are many. The patient is under constant medical supervision. He is removed from all disturbing influences; he is encouraged to take adequate amounts of food; he is made to take sufficient rest; he is prevented from overexercise, and taught how to take the proper amount of exercise; he is taught how to live; he breathes pure air continuously throughout the day and night; he lives with one object, that of getting well, and he has a constant object lesson in watching the good effects of the treatment on others. He is taken away from business cares and home surroundings, which are apt to make demands upon his strength, and placed in a position where his sole business is that of getting well. He receives better care, because everything is arranged to meet his needs. The sanatorium is constructed with special reference to the disease to be treated.

Since the sanatorium treatment is accepted by the medical profession as the best available at present (and the unanimity of the profession on this point is remarkable), and since it saves many lives, prolongs the lives and alleviates the sufferings of those whom it can not altogether rescue, and inasmuch as it has the collateral advantage of aiding in the work of prevention by isolating a number of active centers of infection that but for it would be scattering the seeds of the disease throughout the community, it behooves us to bring the treatment within the reach of as many as possible and thus enhance the chances of recovery from a disease in which under the most favorable conditions the result in any given case is doubtful.

The application of the laws of health to the treatment of disease, although long advocated by far-seeing pioneers, has only recently received that recognition necessary to elevate it to the dignity of an adopted principle of medical practice, and we have been so slow to recognize this principle that we have not done so until forced by our failure to attain satisfactory results by every conceivable method. Experience has abundantly demonstrated the importance of the sanatorium as a desirable and even essential agency in the treatment and as an educational school for rational living. Fads and fancies have gathered about the so-called "open-air" treatment, and impossible things have been attempted and impossible claims made by inexperienced enthusiasts as to the almost miraculous efficacy accruing from sanatorium residence. Notwithstanding all the exaggerations and failures which are chargeable to overenthusiasm and ignorance, the latter day treatment offers the best means known to medical science for dealing effectually with tuberculous patients. The difficulty in securing early cases, the financial and other obstacles to continuing treatment for a sufficient period, the frequent impossibility of reforming the habits of patients, for securing suitable work after discharge, failure to maintain medical after-care—these and many other obstacles make it surprising that even as good results have been secured. Time and effort will remedy these defects and thus remove the skepticism which is the inevitable result of the many failures which must now be recorded. The sanatorium offers the tuberculous invalid the most practical, indeed, the only systematic and reasonably certain method of fighting the disease and acquiring hygienic education in its prevention.

The hygienic-dietetic treatment of tuberculosis is an established fact. It is not an experiment. The pioneer efforts of Brehmer in Europe, Trudeau in this country, and scores of others have demonstrated beyond cavil the immensely practical value of the sanatorium idea. This does not mean, however, that the patient is to be restored to health simply by a few weeks' stay in a sanatorium, a brief sojourn at some health resort, or tent life in his own back yard under the guidance of his own sweet will or general directions from a physician whose knowledge is purely theoretical. It means rather a systematic, regulated life under rigid discipline and routine, the constant watchfulness of every symptom, not by the patient himself, but by experienced nurses and physicians.

RESULTS.

The results of sanatorium treatment are highly encouraging, notwithstanding statements made from time to time to the contrary. Under sound sanatorium treatment the lives of thousands have already been saved. Hundreds have been rendered fit to return to ordinary work, or without complete recovery have been able to resume work of a less exacting nature. If treatment be undertaken reasonably early it is the exception to find a patient who does not make favorable progress. In many instances results are obtained which can only be described as marvelous. If the results are not so uniformly good as might be desired, the sum total of complete or economic cures is still very great. These would be much better if there was a more complete understanding as to what constitutes an early and suitable case.

Statistics at hand from various sources, including those of our American sanatoria, show that in one-third of all cases treated apparent cures are effected which does not include arrested and improved cases which subsequently resulted in cures. This means that proper treatment has cured 35 to 40 per cent. of what was considered only a short time ago an incurable disease. If one-third can be cured when the statistics include those in the advanced and far-advanced stages of the disease, this percentage could certainly be more than doubled if these patients were treated in the incipient stage. So, in the light of what has been done by those who are endeavoring to cure tuberculosis, the outlook is most promising. With early diagnosis and immediate treatment results can be attained as good as those in typhoid fever and pneumonia; therefore, this disease is no longer to be looked upon as hopeless, but as one that will yield readily to proper treatment.

Too much of the work of the sanatoria is devoted to the care of incurable or, at best, unpromising cases rather than to the curable. These must be cared for, but it ought to be understood that as a rule all that should be expected in this class of cases is that life may be prolonged and the sufferers made more comfortable while they live. The possibilities of treatment should not be judged by what is being accomplished under present extreme conditions. It is the far-advanced cases which cause the apparently poor statistical showing. While the results are in some respects disappointing, they are due for the most part to defective methods which will be remedied. Those who are in the thick of the fight see so many causes operating to defeat their efforts that it is not surprising if here and there one becomes discouraged and utters a despairing note which has a tendency to retard our progress. We see so much of our energy wasted because of the failure to appreciate what can and what can not be done, what ought and what ought not be done—in short, the failure to recognize the condition of success, and that the treatment has its limitations. These failures will be repeated over and over again and many lives must be sacrificed to error before the truth shall be established. This seems to be in accordance with the law of progress in all departments of life. It has always been so in medicine, and there is no reason to expect that our efforts to establish the truth

in our fight against this most destructive of all diseases will be an exception. Here again we may use appendicitis as an illustration. In the early history of the treatment when an operation was delayed until the patient was almost moribund the mortality was so great that operative procedures were seriously handicapped and discredited. Now that an operation is the first instead of the last resort the mortality is almost nothing. Thus it will be with a better understanding of when and how to apply the modern treatment of tuberculosis.

TIME.

"A chain is no stronger than its weakest link." Aside from securing patients in the early stage of the disease, the weakest link in the chain of treatment at present is failure to recognize the time element. Control of the patient is the secret of success, and in no particular is this more essential than in allowing the physician to determine how long patients shall remain under treatment. As a rule, patients are amenable to control in every important particular save one, and that is the length of time treatment shall be continued. This grows out of the prevailing opinion which results from the teaching that tuberculosis is easily cured and a failure to recognize what constitutes a cure. I do not include in this statement those who must abandon treatment for financial reasons. The prevailing idea is that a person suffering from consumption has only to go to a sanatorium for a few weeks—three months is the time usually designated—in order to be cured. This or even a less time usually suffices to get rid of the mixed infection and allay active symptoms. This quiescence is mistaken for cure even by intelligent patients and physicians. Notwithstanding the strenuous efforts of sanatorium officials to prevent, these patients return to their homes, where they are hailed with delight and heralded as cured. With their own unwonted feeling of health, the constant reiteration of friends that they are cured, they soon grow careless in carrying out the essentials of treatment and relapse into a condition perhaps worse than when admitted to the sanatorium. Such patients realize their folly too late, are filled with regret, and the friends who are most largely responsible by their bad advice for the disastrous consequences, in their ignorance decry the treatment as a failure.

Although the disease may in many cases be arrested by a comparatively short stay, a complete cure requires a long time. If the patient returns to his former surroundings and resumes his occupation, the old influences are likely to cause a recurrence of the trouble. How to prevent this is the most perplexing question in the treatment of tuberculosis. The object of treatment is not merely to secure the arrest of the disease but those changes in the affected areas which characterize obsolete lesions. It is important to remember that for such changes to take place a long period of time is required, to be measured always by months, and in some cases by years, and that failing in this, it is very likely that the patient will suffer a relapse as soon as he submits to the strain which a busy life entails. It is difficult, in fact impossible, to say in advance just how long patients should remain in a sanatorium before

being left to their own resources, which is what returning to their homes means. In a general way we may fix the time at about six months, but in many cases it should be much longer.

The incipient case in a stay of six months, in a large proportion of cases, should be discharged apparently recovered, and if the patient follows a suitable routine under favorable surroundings for one to two years following his discharge he should have arrived at a state of health in which the term cure is justifiable. This does not necessarily mean that he must remain idle all this time or follow a life of invalidism. Under proper conditions and directions he may follow some employment and even be benefited thereby. Time is an essential element in the treatment and varies in different individuals and according to the stage of the disease. More failures are due to the fact that patients do not continue the treatment long enough than because they are incurable. When this fact is understood one of the most serious obstacles to success will be largely overcome. I do not wish to convey the impression that it is the perversity of the patient which leads him to disregard the time element. This mistake is due to the very natural, and by comparison with convalescence from other diseases, reasonable assumption that he is almost well because he is restored to his normal weight and feels perhaps better than he ever did in his life. He can not distinguish between his feelings and his actual danger, can see no reason for remaining under treatment where, so far as he can determine, all there is to the treatment is to eat, sleep and live in the open air—a treatment so simple and easy that he needs no guidance or even advice. These are the principal reasons why patients abandon treatment just at a time when recovery is assured but not yet complete. Some go home, carrying out the treatment fairly well and make a good recovery. Others are soon as bad or worse than when treatment was begun. It is safe to say that fully 50 per cent. of relapses of apparent cures are due to failure to remain in the sanatorium long enough. This difficulty is largely due to the bad advice which is frequently given to go to a sanatorium "for a few weeks to learn the treatment." Unfortunately it is not so easy or simple that this can be done. Such advice is pernicious, for the reason that it misleads patients and demoralizes them when they find they have been ill-advised.

No patient should be encouraged to enter upon the treatment without an understanding of all its conditions and a full determination to carry them out. There is no short cut or royal road to a cure in tuberculosis. Physicians will render their patients and the cause valuable service by impressing the very important fact upon those whom they advise to take the treatment that those who are not willing or can not meet its requirements need not expect a favorable result. The conditions are exacting, and in nothing more so than in the time element, and attempts to compromise or depart from well established methods usually result disastrously.

If the patient and his friends assume the responsibility of deciding how long he shall remain under treatment, why not go a step further

and decide every other item of treatment. By so doing the very important factor of control is eliminated, which is the principal reason why sanatoria exist. All the treatment amounts to in many cases is simply to carry patients to an arrest of the disease which they call a cure, deludes them into a false security for a time, and deceives their friends and the public. These are the so-called "cures" from which some statistician of the future will collect his data to prove the instability of the treatment and the failure of sanatoria to produce permanent results.

The patient who can not or will not give up all his active duties and all pleasures of his own choosing for at least a six months residence in a sanatorium and lead a very regular and severely correct life for a year or two longer has no reasonable assurance of making a recovery. These conditions may seem exacting, but they must be met. The time element aside from the expense is really the severest exaction of the treatment. "All that a man hath will he give for his life." In view of the desperate struggle men make to save their lives when confronted with imminent danger under conditions where they must suffer excruciating pain, sacrifice much in time and money, it is passing strange that more patients with tuberculosis will not devote a few months, amid pleasant surroundings, free from hardships and pain, to escape almost inevitable death. Is it the characteristic optimism peculiar to the disease which deludes them? Or is it our failure to present the danger in such a way as to duly impress them? Whatever may be the cause, we will never make substantial progress in our fight against this terrible scourge until patients are more thoroughly impressed with their danger and what must be done to escape it.

HOME TREATMENT.

The question of treatment at home or in sanatoria has been discussed more or less, and on the part of some with considerable heat; therefore, this question demands careful and intelligent consideration. There is no reason why a consumptive in ordinary circumstances can not have as much fresh air and nourishing food at home as in a sanatorium. He may obtain rest and he may follow the directions of his physician, but, generally speaking, the hygienic, dietetic and disciplinary care of a consumptive in any stage can best be enforced in a sanatorium. Experience teaches that patients at home are almost certain to disregard rules that are necessary but irksome, and they usually end by disregarding them altogether. The exceptional patient is amenable to the requirements of a long course of treatment, and it goes without saying that such a one will do as well at home as anywhere. A vast majority of cases, however, require a residence at a sanatorium in order to form the habits of life necessary to their preservation. Even under the environment of a favorably situated and well ordered home treatment is well-nigh impossible. The family or friends of the patient can not give intelligent cooperation, and in laudable attempts to help will hinder by over-indulgence. Well-nourished, incipient cases with fair bodily strength do not impress their friends or themselves as invalids and are easily tempted to

over-exercise, indulge in injurious amusements or other undue expenditure of energy, seriously handicapping the best efforts of even a thoroughly trained medical attendant. The inevitable coddling of mothers, wives and sisters, to say nothing of the difficulty of controlling the patient, even if these do not exist, makes successful home supervision almost if not quite impossible.

It is difficult to secure absolute obedience to directions for home treatment. A patient who would take a drug in the exact manner prescribed will usually lack appreciation of the importance of following to the letter directions for taking air, food and rest or exercise. Patients are exceedingly apt to make variations in directions given them in accordance with their feelings or the advice of friends. No one can study the minute care given to patients in the sanatorium without being impressed with the fact that in the treatment of tuberculosis everything touching the environment of the patient is important and should be considered. If such slight influences as an exciting game of cards, highly emotional music, or an exciting book, may raise the temperature of such patients and do harm, how necessary that he should have constant medical guidance. That many persons recover from tuberculosis without a physician we know. That many even have the disease and recover without even suspecting that they had it, we also know from autopsy records. But it would be just as foolish for a patient with tuberculosis to treat himself with drugs as it would be for him to treat himself by the so-called fresh-air method. *It is constant supervision that is essential.* The occasional or even daily attention of the family physician is not sufficient in most cases. The fight is a long one, in which carelessness of one day may undo all the benefits of faithfulness of the preceding thirty days. Careful directions may be given, but it is asking too much of a person weakened by disease to take that care of himself which the healthy people about him disregard, and by whose standard he is continually tempted to measure himself. It is not enough to tell him what to do; he must be followed up to see that he does it.

Sanatorium treatment gives the best results because the patient is under perfect control and nothing is left to the feelings or whims of the patient or his family. At home, social, domestic and business duties and attractions interfere with the exact carrying out of the doctor's orders by the patient, who rarely ever feels sick enough to realize that his life depends on his living the life of a desperately sick man, and who in an advanced stage either has not the moral courage, or the family support, aid and comfort to carry out the prescribed regimen. Sanatorium treatment is more economic because it takes less time. As much improvement can be obtained in a week in the sanatorium as is usually possible in a month in the home even under favorable circumstances. Then, too, the results are more satisfactory. Statistics show conclusively that the majority of sanatorium arrests or cures are permanent, while those secured in the home are only temporary.

A sanatorium is a place where patients are taught the business of getting well. When this is learned and the patient is properly fortified

to stand the ordinary vicissitudes of life he may be permitted to return to his home. Such a training is a practical necessity, and it is doubtful if the most favorable results will be attained until private and public institutions are so numerous that all consumptives can be accommodated. With a more general dissemination of knowledge of sanatorium methods and an earlier diagnosis it will be less of a necessity, but for the present and the immediate future home treatment will at best prove a very poor substitute. The failure of patients and friends to appreciate the conditions essential to success are serious obstacles in the application of treatment in sanatoria. These are multiplied many times in the attempt to carry out the treatment in the home.

CURABILITY.

The observation of a large group of cases proves that consumption is susceptible of spontaneous cure and shows that in many instances its progress may be stayed and its ravages repaired by some slight reinforcement of the bodily powers in those cases where the forces of nature are not sufficient under ordinary conditions. It is to supply this reinforcement that sanatoria have been established. It is well known that a large majority of postmortem examinations in charity hospital examinations reveal healed tuberculous lesions in those who have died of other diseases. The tendency of the disease is nearly always toward recovery even when unaided. With proper aid at the proper time all cases can be cured except the few in which resistance is so low that there is nothing upon which to build. Tuberculosis is not curable under all conditions and by loose and indifferent methods. It is curable within reasonable limitations and under well-defined methods.

In estimating the cure of tuberculosis medical men are constantly vibrating between unwarranted optimism and extreme pessimism. As is usually the case, too much importance is attached to the results favorable or otherwise in the individual case. The only possible way to arrive at correct conclusions is to critically examine all the evidence pro and con and make deductions from sufficient data and not isolated facts or preconceived opinions. Conclusions arrived at in this manner will give us comparatively accurate knowledge as to what is being done and a better working basis for future investigations. Success or failure in the advanced or far-advanced case is frequently taken as a criterion of the curability of the disease. This is due to the fact that we have not yet gotten away from our conceptions of consumption based upon the classical symptoms as laid down in text-books. This is as irrational as it is unfair. The successful results so frequently obtained under extremely adverse conditions should be accepted as illustrating the curability of the disease and the possibilities of the treatment, but not as an example of what may be expected as a rule. More should not be demanded of the treatment than is claimed for it by those who are in a position to know its merits. It is not that even far-advanced cases can not be cured so much as the fact that it requires so much courage, time and money that there is only an occasional patient who can stand the

test. There should be no criticism of the treatment that it does not always cure. The same may be said of many surgical proceedings, which are justified by the plea that they prolong life or make the patient more comfortable.

EDUCATIONAL VALUE.

Although the results secured in the treatment of patients are so gratifying, this is but a small part of the work accomplished by the sanatorium. Its work is not only curative but educational. The daily sanatorium life is an education in itself. In addition to the requirements of the treatment proper, patients are instructed in personal hygiene, home sanitation, the prevention of the disease and rules laid down for their guidance after leaving the institution. Every effort is made to impress upon them the importance of prevention, which not only makes them harmless to their family and friends on their return to their homes, but also centers of influence in their respective communities in enlightening and educating the public in practical methods for the prevention and eradication of the disease. It is no reflection upon the medical profession to say that the intelligent patient on his discharge usually knows more of the practical application of the treatment of tuberculosis and its prevention than the physician who sent him.

Thus every conscientious inmate of an institution goes forth from it as a missionary, bearing with him a practical knowledge of tuberculosis and of the manner of preventing its spread. This he teaches to his friends, and in this way these institutions are able to reach a wide circle in an indirect manner. He has thoroughly learned the rules of health and hygiene. He teaches his friends the gospel of fresh air and sunshine in their homes and that regularity of life is essential to good health. Could this become more universal not only tuberculosis but many other diseases would rapidly diminish amongst us, and coming generations would be better and stronger and healthier. There is no grander work than that undertaken by our profession in the prophylaxis of disease. The communicable diseases are lessening rapidly through improved methods of sanitation. In the fight against tuberculosis there can be no better object lesson than the sanatorium and the successful work done by it. It is unquestionably the most far-reaching and efficient means of attacking the tuberculosis menace. The educational effect is more decided and far-reaching than the curative benefits can ever hope to be.

THE PATIENT.

In the treatment of most diseases the patient is a passive agent. This is not true in the treatment of tuberculosis. Here the patient is an active agent and without his intelligent and persistent co-operation the physician can do nothing. He is usually more of a problem than his disease, making it difficult to get him to accept necessary conditions. This grows out of the fact that he is not consciously sick. He is apt to estimate his danger by the severity of his symptoms. A slight hemorrhage from which there is no particular danger will strike him with terror, while a

high fever, rapid pulse or other really dangerous symptom he regards lightly or of no special significance. Patients almost invariably think they are in but little or no danger when told they have incipient tuberculosis. As a matter of fact they are in almost as much danger as if the disease was advanced. The distinction which should be made as between the early and advanced case is not in the element of danger but the degree of curability. An early diagnosis is not sufficient. It means nothing to the patient unless followed by prompt and efficient treatment. Exuberance of spirits leads to excesses which are innocent enough under normal conditions but are apt to be injurious and not infrequently fatal when indulged in by the tuberculous patient. We are constantly reminded by our patients, when cautioned against indiscretions which experience teaches us are dangerous, that there can not be any risk because they "feel so well." The patient is constantly being guided by his feelings in everything he does which makes him difficult to control. It is this one fact more than any other which makes control during the active stage of the disease so absolutely essential. Nothing is more misleading to the patient than his feeling of well-being which always accompanies improvement and convalescence. Too many patients when they get to this point think the race with death is already won. They are not unlike the driver in a race who slackens his speed, thinking the race won because he is ahead at the first quarter pole.

Character plays such an important part in the treatment that it is reasonably exact to say that the weak, mercurial patient who does things half-heartedly, who is constantly vacillating between duty and desire, or who does his duty only under the spur of fear, may do well for awhile but is almost sure after he has made a fair recovery to break away and undo in a day or a week all he has gained in months. Too many are satisfied to keep just a little ahead of the disease instead of using every opportunity to make a complete recovery. On the other hand, the patient of strong character has a great protection against relapses. He only needs to be reminded of dangers to avoid them. When told to lead a regular life, deprive himself of pleasures and avoid dissipations he never murmurs or flinches but accepts the situation gracefully and cheerfully. The result is he gets well easily and remains well. Character is such a determining factor that by its aid a desperate case may get well while one with less determination in the incipient stage will not. Indeed, it may be said that it is only the patient of strong character who does get well when the disease is well advanced. It is not possible to do more for any patient than he will accept. The wisest advice will avail nothing if he is not sufficiently impressed with the importance of proper living to put into practical operation the advice given. No institution or system of treatment can supply deficiency of character in a patient who is weak and vacillating. All that can be done for any patient is to afford him an opportunity. He must improve his opportunities or they are worthless.

SOCIAL LIFE.

There are many misconceptions as to the disagreeable features of sanatorium life. In addition to the exaggerated idea as to its discomforts, many patients hesitate to enter the sanatorium because they dread the depressing influences to which they fear they will be subjected. The facts are that there is nothing about the sanatorium which savors of the hospital—not even in its construction. The patients who are admitted are, as a rule, able to care for themselves. There is a feeling of comradeship such as usually obtains in an educational institution. Patients are taught to think and talk about everything else except their disease. Care is taken that a spirit of hopelessness and cheerfulness shall prevail. In addition to the daily routine of sanatorium life, which of necessity becomes monotonous, reasonable efforts should be made to relieve the monotony so far as may be by amusements, entertainments and other suitable diversions. In providing amusements care must be taken to not let patients get the impression that the sanatorium is simply a place of amusement. This, like every factor of treatment, must be nicely adjusted, always preserving the sense of proportion and relation to other features of treatment. Everything reasonable should be done to make it pleasant for patients, but coddling must be avoided. Those who must be coaxed to take treatment do not have sufficient stability to do any good. Coddling is fatal. Spineless people can not be cured.

At the Ottawa Tent Colony prominent citizens are invited to all social affairs and entertainments. They mingle freely with the patients and by this means become mutually helpful. The patients are entertained and made to feel that they are welcomed by the community; the visitors are instructed in hygienic living and the prevention of the disease, thus doing away with that unreasonable and unreasoning attitude toward sanatoria and the tuberculous patient which has been such a serious obstacle to the institutional care of the tuberculous invalid almost everywhere. The social life of the colony is made attractive. Instead of being the cheerless and forbidding place that many conceive it to be, it is exactly the reverse. New arrivals, their friends and visitors invariably give expression to their surprise at the entire absence of the disagreeable features which they anticipated must of necessity be connected with the treatment, and the general tone of cheerfulness and good feeling which prevails. The psychical phase is so very important that it would be impossible to successfully apply the treatment were this element neglected or ignored. It not infrequently occurs that patients become so attached to the institution and their newly-made friends that they are loath to leave when they are ready to be discharged.

CONCLUSION.

I trust that in presenting the mistakes and misconceptions with regard to the modern treatment of tuberculosis that I have avoided conveying an impression of pessimism or discouragement. The wave of enthusiasm which now characterizes the reception of the treatment in certain quarters needs guidance more than stimulation. The prevailing

opinion as to the ease and certainty of the cure of tuberculosis under present conditions is misleading and is resulting in many fatal mistakes in its application. Sanatorium workers are the watchmen on the outer walls. We see the danger from misdirected enthusiasm and would fall short of our duty if we did not add a word of caution, for the public interest upon which we build our hopes has also its element of danger unless wisely guided. Calling attention to mistakes leads to their correction. We already have enough knowledge of tuberculosis to both prevent and cure it if properly applied. We have an army of research workers who are supplying us with the necessary scientific facts. What is needed is more field workers to perfect methods for putting into effect what we already know. It is only by a practical application of scientific knowledge that it becomes valuable. It is as pathetic as it is disheartening to see the vain attempts to accomplish a possible end by impossible means as is so frequently done. However, with all its difficulties and discouragements the warfare against tuberculosis is steadily advancing and to those who are bearing the "heat and burden of the day" it offers so many humanitarian, social and scientific incentives to endeavor that it will never be allowed to stop until our day dreams are realized and the "great white plague" is numbered among the diseases that were.

A NEW METHOD OF DIAGNOSIS AND TREATMENT OF FISTULOUS TRACTS, TUBERCULOUS SINUSES AND ABSCESS CAVITIES.*

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The present methods of diagnosis and treatment of fistulous tracts are still imperfect. This is evident from the fact that so many cases remain uncured, after they have received the best medical and surgical treatment. Surgery has so far been the only means which to any degree has succeeded in curing these fistulous tracts, and whenever it failed it was usually due to the lack of knowledge of the extent of the disease. A number of sinuses were usually overlooked and consequently the operation was incomplete and failed to close the fistula.

I shall demonstrate to you this evening a new method of diagnosis, which will enable the surgeon to see every portion of the sinus or fistula even before an operation is decided upon. He will know exactly the extent and direction of the sinuses and plan his operation accordingly. I shall further demonstrate a new method of treatment of fistulous tracts, which in the majority of cases makes an operation altogether unnecessary.

The new method of diagnosis of the above affections consists in filling the fistula or abscess cavity with a bismuth-vaselin paste and then taking a radiograph of the region affected. A radiograph so taken clearly marks out the boundaries of the fistula, showing every part of the chan-

* Read before the Chicago Medical Society, Jan. 15, 1908. For discussion see p. 456.

nel, no matter how extensive or how tortuous it may be. Bismuth, as is well known, offers great resistance to the penetration of the *x*-rays and is, therefore, a very suitable material for this class of radiographic work. The shadow obtained by its use represents the true picture of the shape and ramification of these cavities within the tissues. (The radiographs, Figures 1 and 3, illustrate this fact.) They show what can be done in exploring the origin, course and the extent of a fistulous network. In some instances the most surprising and unexpected findings are detected in this way. This method of diagnosis proves, for obvious reasons, a great advantage over the methods now in vogue, such as the probe, the injection of colored fluids or peroxid of hydrogen.

The diagnosis with bismuth radiographs has ascertained the cause why certain cases have not been cured after several operations have been performed. It demonstrated the uselessness of an operation which does not reach every part of the diseased tract. A subsequent operation under the guidance of this skiagraph diagnosis has, as a rule, proved successful. This method of diagnosis was developed by us since March, 1906, and has proved in our hands indispensable in the treatment of fistulous tracts. Before I describe the new method of treatment I desire to review briefly the methods now in vogue.

Surgery has done more than any other method so far. The surgeon aims to convert a fistulous tract into a healthy wound and thereby facilitate healing by granulation. In cases of osteomyelitis the sequestra are removed and all diseased tissues eradicated, so that a healthy cavity remains for granulation. Several methods have been devised to obliterate cavities thus created. One of these consists in the filling up of the cavity with decalcified bone chips, originated by the late Professor Senn. Another is the covering of raw surfaces by skin grafts or skin flaps. The Mosetig-Moorhof plug is another favorite method with surgeons for this treatment. Each of these methods has its merits and most cases will yield to this treatment.

But there still remains a class of cases to which neither of these methods is applicable, as, for instance, a fistula following psoas abscess. Other cases, again, will keep on suppurating in spite of all skilful treatment. Patients are willing to undergo many operations before they give up entirely. With each successive operation undertaken the patient and surgeon hope to achieve a cure, only to meet with another disappointment. I present several such cases. In the interval of these operations other methods are usually tried. Irrigation with antiseptic watery solutions, as, for instance, boric acid, solution of 1 per cent. iodin or a weak solution of silver nitrate.

The habit of irrigating these chronic fistulous tracts with any watery solution is to be condemned. It is more harmful than beneficial. The fluid fills up the sinuses and keeps their walls in a macerated condition, thereby preventing the formation of healthy granulations. I would sooner advocate the drying-out of these cavities by strips of gauze instead of macerating them with water. This, however, is often impossible. Injection of alcohol, however, on account of its desiccating property, is

permissible in these wounds, providing they do not communicate with hollow organs.

This is, then, a résumé of the principal methods of treatment in vogue at the present time. Most cases will yield to either one or the other method, but a percentage will remain uncured after all have been tried. This statement is supported by the fact that cases travel from year to year in clinics, then try osteopathy or other similar inefficient methods, until finally they are resigned to their fate and are content with daily dressing.

The new method of treatment is quite as simple as that of diagnosis; in fact, the same process applies to both; it consists likewise in the filling of the fistulous tract with bismuth paste. THE INJECTION OF LIQUEFIED BISMUTH-VASELIN PASTE IS NOT ONLY VALUABLE FOR DIAGNOSTIC PURPOSES, BUT FOR CURATIVE PURPOSES AS WELL. The first case injected for diagnostic purposes led us to this important discovery. It disclosed the new method of treatment. After one single injection of the bismuth paste a fistula following a psoas abscess (Fig. 1) which had existed nearly two years, had entirely closed up and has remained so up to date. Other cases were subjected to the same treatment with similar results. To illustrate this I shall report Case No. 1 at this point:

CASE 1.—A. D., who is now 6 years of age, presented herself at the hospital in March, 1906, with a fistula resulting from a psoas abscess which had continued to discharge pus for nearly two years, and required daily dressing. Bismuth injection for diagnosis was made April 23, 1906. The skiagraph (Fig. 1) demonstrates that the fistula extends from Scarpa's triangle along the psoas muscle up to the junction of the second and third lumbar vertebræ. There the bismuth fills out the space about three-quarters of an inch long and about one and one-quarter inches wide, right in front of the second and third lumbar vertebræ. A small cavity of the size of a hazlenut is also found on the opposite side of the vertebral column.

The parents returned a few days later stating that for the first time in two years the fistula stopped discharging pus. They were told that this might be only temporary, we having often observed a temporary cessation of fistulous discharge. They returned, however, on June 22 (two months later), the fistula still remaining closed and the child had no symptoms which would indicate any retention of pus. Thereupon we took another skiagraph and found that the bismuth had disappeared. It had probably been absorbed, because the parents stated that none of the material had been found on the dressing. The patient is well, the fistula having remained closed up to this day.

A series of cases subsequently treated by this method proved to us that the cure in Case No. 1 was not accidental but that we could obtain equally good results in other similar cases.

Up to this day we have treated 14 cases: 2 cases of spondylitis and psoas abscess, 2 and 16 years' duration; 1 case of tubercular hip-joint, 16 years' duration; 1 case of tubercular knee-joint, 7 years' duration; 1 case of tubercular pelvis, 3 years' duration; 1 case of tubercular ulna, 6 months' duration; 1 case of chronic osteomyelitis of femur, open since 1899; 1 case of fistula after resection of tubercular kidney, 1 year's duration; 3 cases of rectal fistula, 2 and 1 year and 6 months;

1 case of abscess of lung, 9 months' duration; 2 cases of abdominal fistula following laparotomy, 4 months' and 1 year duration.

The method is applicable to all fistulæ or abscess cavities except intracranial sinuses or biliary fistulæ.

We desire to give a history of some of the cases in detail and the results of our treatment. By doing so, however, I wish to speak of the method of injection and give the formula of the paste:

FORMULA OF PASTE FOR DIAGNOSIS AND EARLY TREATMENT.

Bismuth subnitrate	30.0 grams.
Vaselin	60.0 grams.

Mix while boiling.

FORMULA OF PASTE FOR LATE TREATMENT.

Bismuth subnitrate	30.0 grams.
White wax	5.0 grams.
Soft paraffin	5.0 grams.
Vaselin	60.0 grams.

Mix while boiling.

In some cases we have added 1 per cent. formalin. It is generally believed that paraffin does not absorb in the tissues. This applies only to hard paraffin. The soft paraffin is absorbed. This has been amply proven by the experiments of Drs. Kirchner and Eckstein, of Berlin, in 1905 and 1906.

Care should be taken that no water should accidentally be spilled into the paste during the process of boiling, and the glass syringes must likewise be sterilized by the dry process and the plunger dipped in sterile oil, instead of water, before charging the syringe.

METHOD OF INJECTION.

The fistula should first be dried out, if possible, by packing into its depth a strip of plain gauze, one-half to one inch wide, and removed just before the injection of the paste. The emulsion is sterilized before using and the syringe charged while the emulsion is hot and liquid. (It is sufficiently cooled by allowing cold water to run over the syringe until the contents are of the right consistency.) A glass syringe with a nozzle similar to that of a Valentine irrigating tip should then be loaded with the bismuth paste and tightly pressed against the fistulous opening; the emulsion is forced in very slowly until the patient begins to complain of pressure. The syringe is then removed and a small gauze sponge is quickly pressed against the opening to prevent the escape of the paste until it has sufficiently hardened. An ice-bag may be applied to hasten the hardening of the material. I inject the bismuth-vaselin paste until pus discharge ceases, and then use the harder preparation containing wax and paraffin, after which it usually remains closed. The injections are painless and produce no unpleasant symptoms. In several hundred injections we have had no accidents, such as hemorrhage, sepsis, embolism, etc.

The composition of these substances is subject to further experiments. There are probably substances which will prove superior to those which we have used. It is my opinion, however, that the healing does not

depend very materially on the particular chemical substance as long as it is a material which is liquid when injected and rapidly solidifies after injection. The solid substance acts as a framework for the formation of healthy granulations.

Besides, it is probable that the bismuth, which becomes radio-active by the exposure of the *x*-rays, aids the formation of granulation on the walls of the fistulæ, with which it comes in direct contact. To increase the radioactivity I have added in some cases strontium salicylate and exposed the patient to the *x*-rays for one or two minutes after injection.

Later the bismuth-vaselin is undoubtedly absorbed and the connective tissue remains and contracts, thereby obliterating the sinus. This principle of bridgework as an aid to healing of suppurative processes has lately been demonstrated in many instances. For example: the filigree of Bartlett in healing suppurative wounds. The filigree serves as a trestle-work for the formation of connective tissue, but has the disadvantage of not being absorbable. I venture to say that if I placed a filigree spiral into a straight fistula it would serve a similar purpose of a bismuth plug. The Moorhof wax plug probably acts on the same principle and likewise the decalcified bone-chips of Senn.

CASE 2.—M. Y., aged 14, born in Germany, lived there until 1903; family history negative. He was healthy until he was 7 years old, when he developed a painful swelling in his right knee. A cast was put on by his family physician for the purpose of immobilization. In a short time an abscess ruptured, and the boy was transferred to the hospital at Freiburg, in Germany, and an operation was performed for tuberculosis of the knee-joint. He left the hospital seven weeks later with a sinus extending from the knee-joint into the middle of the tibia, and two smaller ones near the joint.

A short time later he returned to the hospital for another operation, which, however, failed to close the sinuses, and a third operation was performed two months later, again with an unfavorable result. The parents then took the boy to Tuebingen, where Professor Bruns performed the fourth operation. No improvement, however, resulted and three fistulæ persisted as before. The family then moved to America, in June, 1903. They had abandoned all medical treatment. Nothing more than daily dressing was done by the patient himself.

On March 21, 1907, at the age of 13, six years after commencement of the fistula, he came to me for treatment. A radiograph without bismuth injection was first taken. It shows the joint and the epiphyses of femur and tibia nearly destroyed, and a sequestrum is clearly visible in the tibia. I proposed an operation, namely, the resection of the knee-joint, which was refused. I then decided the next best procedure, and cleaned out the knee-joint, removing the sequestrum as radically as possible. This was done March 29, 1907, with the same result, namely, three fistulæ persisted. I then decided to try Professor Bier's hyperemia method, which was carried out for four months, but without result. At this time our experiments with bismuth injection were so promising that I decided to try it in this case also.

The first bismuth paste injection was made October 3, 1907, and fistula at once showed the tendency to healing. After three injections, at one month's interval, the sinuses became nearly closed, and I could only with difficulty make the fourth injection, of which I took a radiograph. Since that time all fistulæ remained healed, the boy became stronger, the pain entirely disappeared, so that he could discard his crutches, which he had used for seven years. He can now skip on the tubercular limb up and down stairs; his weight increased fifteen pounds.

CASE 3.—Herman A., 19 years old; clerk, with good family and personal his-

Fig. 1.—Psoas abscess fistula. Child 4 years old. A. Point of injection of bismuth paste. B. Depth of fistula.

Fig. 2.—Lung abscess. Boy 19. A. Point of injection of bismuth paste, cavity nearly filled.

Fig. 3.—Tubercular sinuses from iliac bone (Case 6). A. Point where bismuth paste was injected previous to operation.

Fig. 4.—Rectal fistula (Case 7.) A. External opening where bismuth was injected. B. Part of fistula which was overlooked during first operation. C. Constricted part of fistula. Parallel black lines—soft catheter in the rectum.

Fig. 5.—Fistula following nephrectomy for tubercular kidney (Case 10.) A. Point of injection of bismuth paste. Fistula now closed.

Fig. 6.—Fecal fistula, following gangrenous appendicitis. A. point of injection of bismuth paste.

Fig. 7.—Fistula following resection of head of femur eight years' standing. A. Coin placed over mouth of fistula. Fistula remained closed after one injection.

Fig. 8.—(Case 5.) Tubercular spondylitis with psoas abscess. A. Coin placed over fistulous opening.

tory, was for the first time in his life taken sick in January, 1907, with an attack of muscular rheumatism and bronchitis. Pleurisy with effusion followed, which turned into an empyema. On March 19, 1907, two ribs were resected and the pus from the cavity evacuated and drainage established. The wound closed up two weeks after the operation, but in two weeks reopened and persisted in discharging a dark green pus of a very fetid odor. The young man was brought to me on Dec. 20, 1907, by his physician, Dr. Lunn, with the fistula still discharging from two to three ounces of pus daily, in spite of all treatment in the past eight months.

A skiagraph was taken before and after bismuth paste injection (Fig. 2). These skiagraphs demonstrate the extent and location of the pus cavity. In this case we left out all drainage at once and injected the cavity daily with a bismuth-vaselin paste. It kept on discharging. The pus, however, diminished every day in quantity and the odor of same was materially changed after a few days. After ten injections the wound ceased to discharge any pus and remained dry for three days. I suspected that there was retention of pus, and therefore inserted a rubber tube, which passed in with some difficulty. Then I ordered the patient to close his mouth and nostrils and distend his lungs as much as possible. This brought out the material in a semi-liquid state and hardened immediately in the basin. No pus followed after all material was forced out. This incident indicated to me that the body temperature kept this bismuth-vaselin in a liquid state, and I therefore concluded to add wax and paraffin to same, and to the next injection. This was done January 10, and the skiagraph shows that the cavity is nearly obliterated with the paste.

The fistula closed up entirely next day, and no unpleasant symptom followed, except that during a coughing spell some of the injected material was coughed up through the mouth. This proves that this was an abscess of the lung which, by the way, was suspected by the character and odor of the pus discharge. The young man is well, his fistula is closed, and he is feeling first-rate.

This case teaches us that an empyema of the pleura or abscess of the lung can be likewise cured without an extensive operation, such as Schede's, which was contemplated in this case.

Case 4.—Miss M. G., 21 years of age, was well, but not strong, until 6 years of age. All other members of the family were healthy and strong, at least no tuberculosis existed. At the age of 6 she developed a pain in her right knee. For about a year it was looked upon as growing pains and treated with liniments. At the age of 7 she was brought to Galena for examination, and Dr. Godfries punctured the hip-joint and found thick pus. She was then brought to Warren and operated by A. F. Buckman for tubercular hip-joint disease. The wound kept on discharging and dressings were so painful that it often required an anesthetic during this procedure. One-half year later another radical operation was performed by Dr. Godfries, removing the head of the femur. This, however, did not prove successful, and since then thirteen more operations were performed at intervals of six months to three years, all of which likewise proved unsuccessful to heal out the sinuses. The last operation was performed by the late Professor Senn, in June, 1907, at the St. Joseph's Hospital. It was the most radical operation, in which the acetabulum was curetted and all necrotic bones and tubercular granulation removed, but the fistula persisted in discharging small quantities of pus, which required daily dressing.

On Dec. 10, 1907, she came to me for treatment. The *x*-ray and radiograph shows that the fistula originated in the acetabulum. The injection of paste was carried out every two or three days, and a 1 per cent. formalin solution was added. So far ten injections were made, and since then the fistula has ceased discharging. Another injection of bismuth-vaselin and paraffin was made, but only a very limited quantity would penetrate, showing that the fistula is ready to close.

Case 5.—E. S., aged 21, parents both healthy. At the age of 4 an abscess developed in the left knee which ruptured spontaneously and a fistula remained. The physician then attending him must have discovered Pott's disease, since he put on a plaster corset, and later a brace was substituted. At the age of 7 two

abscesses ruptured, one on the left side of his back and the other around the left hip. Operations were then performed from time to time, fifteen in all, some of them quite extensive, with the final result that eight fistulæ remained. In this condition he presented himself for treatment in April, 1906. (See Fig. 8.) So far 55 injections have been made and slight improvement is noticeable. The final outcome of this case is problematical, since the entire pelois and both lower limbs are undermined with fistulous tracts and a sacral fistula communicates with the rectum, discharging fecal masses. I shall continue treatment and report the final result later on.

CASE 6.—Miss E. S., 18 years old, has had the usual diseases of childhood, but no evidences of tuberculosis. In 1904 she developed an abscess in the region of her right hip. Same was incised and drained, but showed no tendency to heal out. Temperature varied from normal to 104°; pulse, 140. Fistula resulted and kept on discharging until May, 1906, when she returned for further treatment.

Examination.—The probe enters the sinus about four inches, passing internally over the crest of the ilium; discharge slight. No skiagraph was taken. An operation was advised and performed by Dr. Carl Beck May 19, 1906. The sinus was freely opened and several pockets exposed and curetted, but no necrosis of bone discovered. Wound was dressed daily, irrigated with sterile water and H_2O_2, sometimes iodoform emulsion injected. She left the hospital July 17, 1906, and while she had no fever and had gained in weight, her fistula persisted in discharging pus. She returned on Dec. 4, 1906, in an ambulance, with a temperature of 102°; pulse, 114.

A skiagraph of the pelvis was then taken after the fistula was injected with the bismuth paste and demonstrated to us the network of sinuses present, and taught us the uselessness of an operation which does not explore every recess of the fistulous tract (Fig. 3). An extensive exploration of all sinuses was performed December 12, and every sinus scraped and packed with gauze. Temperature remained normal after operation. The wounds healed very rapidly, and bismuth paste was injected for a short time into the closing wound, and the entire process healed up. Patient left the hospital Jan. 30, 1907, in first-class condition, with fistula healed up for the first time in three years. We have received a report from her, Jan. 15, 1908, that she is entirely well.

CASE 7.—J. P., aged 18. Family history: Father and mother living and well; three sisters and two brothers well; one sister died from bronchial trouble; one baby sister from tuberculosis.

Past History.—About a year ago he had chills and fever, and pain about the rectum. An abscess formed and broke at a point one inch from the anus. Sinus persisted up to the time of examination. Operation was performed May 10, 1906. The sinus was slit open into the rectum. All visible recesses were thoroughly curetted and packed with iodoform gauze. After-treatment consisted in daily irrigation with boric acid and cauterization with 20 per cent. silver nitrate, but fistula showed no tendency to heal.

Bismuth paste was then injected into the sinus for diagnostic purposes only (Fig. 4). This clearly demonstrated why we had no success in the first operation, because another abscess existed higher up, which communicated by a constriction with the fistula operated upon at first. Another operation was at once decided upon and performed on July 7, 1906, and the sinus extending about two inches in the direction of the prostate was curetted. From this time on the healing went on rapidly. Patient slept out of doors, gained about twenty pounds in weight, and was discharged, cured, by Sept. 7, 1906. Bismuth injections for therapeutic purposes were not necessary in the case, since the fistula healed out after the second operation.

CASE 8.—A. G., 18 years old, always well until spring of 1907, when he developed on the left side a mastoiditis, and was operated upon and cured. Three months later he returned to the hospital with a mastoiditis on the right side. Was again operated upon, and also with good results. During his stay at the hospital we accidentally discovered that he had a rectal fistula, and upon inquiry

we found that he had an abscess opened about three weeks before he entered the hospital by his house physician. We took a radiograph after injection of bismuth, which clearly demonstrates the extent of the fistula. For comparison we took another after inserting a probe as far as it would reach, without using any force. Comparison of the two radiographs shows that the bismuth penetrated about one inch higher than the probe. We advised a radical operation, to which he readily consented, and which I performed on Nov. 30, 1907, in the usual way, by splitting up the fistula into the rectum. During the operation we found solidified bismuth paste filling out the deepest part of the fistula. This bismuth had been in two weeks, since no injections were made two weeks previous to the operation. He made a splendid recovery after the second operation.

CASE 9.—Mr. M. A., 25 years of age; family history, non-tubercular. In the fall of 1905, he was operated on for acute gangrenous appendicitis, which was followed by a fecal fistula and same persisted for four months. A secondary operation failed to close the fistula, since the patient refused a general anesthetic. Although the fistula discharged very little fecal matter, it discharged pus and gas. He was then treated for six months with silver nitrate cauterization, without any material improvement. In August, 1906, we took a radiograph with an injection of bismuth paste (Fig. 6). The radiograph demonstrated the uselessness of our silver nitrate stick treatment. (You note on the *x*-ray picture the extent of the fistula.) It is a cavity which undermines the muscles for two inches in diameter. This one injection was sufficient to obliterate this fistula. Patient lives in Milwaukee and presented himself a month ago (one year after the injection) with his fistula still closed.

This case demonstrates that, even if the fistula communicates with the intestine, it is possible to obliterate same by the bismuth paste injection.

CASE 10.—Mrs. H. R., aged 26; was operated upon Jan. 7, 1907, by Dr. Carl Beck for tubercular kidney. The right kidney was removed; it contained a number of abscesses. It required a large incision, and the ragged cavity which remained after removal was packed with gauze for drainage. After long and tedious treatment, such as irrigation, the patient improved in general health, but the fistula showed no tendency to healing, and the patient left the hospital May 22, nearly six months after operation, with very little hope that her fistula would ever close. About three months later, when our experiment with bismuth injection became encouraging, we sent for her, intending to try this method upon her, with the view of closing her fistula. She returned Sept. 3, 1907, and the first bismuth injection was made, of which we have a skiagraph (Fig. 5). It shows that the fistula reaches up to the diaphragm, about four and one-half inches in length. From September 3 until November 13, only five injections were made, and a decided improvement followed. Patient, however, did not wish to remain longer at the hospital, and returned once a week for injection of bismuth. The case is not yet healed up entirely, since the treatment was carried out with irregularity; sometimes two weeks elapsed between the injections.

The second radiograph, however, proved that fistula is reduced to about one-half, and discharge also is not nearly as much as before. Patient's general health is very much improved; gained two to three pounds a week. I advise now three injections a week.[1]

CASE 11.—This case was brought for diagnosis to Dr. B. G. Katz, who has been kind to assist me in this work. We have been able to obtain a history from Dr. Maurice B. Wolff, under whose care he was, and we are very glad to be informed that the case healed out entirely from the one injection. Here is the complete history of the case as given by Dr. Wolff:

J. G., aged 26. Patient first had trouble with right leg in spring of 1898. There was no history of any decisive injury, although he played football that season at military school. A diagnosis of tuberculosis was made at this time, and he was in bed with extension until the following November. He walked with crutches until the next April, when he fell and injured the leg, with resulting abscess, which was opened and drained in October, 1899. This was on the anterior

1. This case has ceased discharging since paper was read.

surface of the thigh. Two days later another incision was made over hip. Three weeks later resection of right hip joint was performed. He recovered and got around with crutches until April, 1900, when femur was curetted for more abscess. In May lower femur was curetted for same trouble. Was all right until 1902, when he fell again, and was in bed three weeks with extension. At this time *x*-ray showed process still active, and some spicula of bone were removed from upper femur. Was all right again from then until I saw him in July, 1906. A small abscess, without history or pain, had developed on outer surface of thigh. Examination showed immovable hip-old scars; about two inches shortening. Abscess was opened and small quantity of pus and necrotic tissue removed. There was a sinus present running upward and backward. Was treated by usual means until August 2, when Dr. Katz took *x*-ray picture with the method for showing sinus (Fig. 7). The material injected I left alone, and simply applied clean external dressings daily. Wound was entirely healed on September 22, and I have seen patient occasionally since, and there has been no recurrence and patient had no trouble with leg to date.

CASE 12.—Osteomyelitis of ulna. Patient, 3½ years old. Mother died of pulmonary tuberculosis two years ago; father is well. At the age of 1 year the child developed abscesses at the outer angle of both eyes, and one in front of the right ear. The child was operated at three different times for same by Dr. Brady, in Jerusalem, and all wounds healed out. The diagnosis was made of "tubercular bone disease." The people then came to America, and at the age of 3 years the child developed a swelling over the left forearm. This swelling was incised at the Children's Hospital; pus evacuated, and a fistula persisted ever since, nearly six months, and required daily dressing. On December 26, child was brought to us for treatment. An injection of bismuth paste was made and shows the origin of the sinus in the center of the ulna. This one injection dried out the fistula, another injection closed it permanently.

CASE 13.—G. B., 8 years old. Was born with absence of rectum and a colostomy was performed under general anesthesia when the baby was only sixteen hours old. During the first four years of this child's life he had two plastic operations on his rectum, which consisted in the formation of an artificial rectum, and closing of a congenital recto-vesical fistula. While the boy had a satisfactory result and could hold his passage, it was not considered safe to close up the colostomy, and so he continued to be happy with his opening of his colon on his abdomen. At the age of 7, however, it was decided to close the abdominal opening. This was done in June, 1907, but a small fistula remained for several months. Finally, an injection of bismuth paste was made, after which the fistula healed up and never opened up again.

It is noteworthy that all these patients are below the age of 30; average age is 16. It is the young people, then, who are thus afflicted, and the cure of this malady is, therefore, so much more important.

One of the cases has only recently closed up and it is possible that it may open up again, although this has not occurred in the cases of nearly one and a half years' standing. If it should open up again the injections will be at once repeated.

CONCLUSIONS.

1. A successful surgical operation of fistulous tracts depends principally upon the exact knowledge of the extent and direction of the sinuses before operation is undertaken.

2. Radiographs taken after the fistulæ have been injected with bismuth paste show distinctly the extent and direction of the fistulous tract.

3. Skiagraphs of all fistulous tracts should be taken before an operation is decided upon.

4. Fistulous tracts, tubercular sinuses, or abscess cavities, including empyema, can be cured by injection of bismuth paste.

5. Cavities or fistulæ should be as clean and as dry as possible before the injection of bismuth paste.

6. The bismuth paste, when mixed with wax or soft paraffin and injected in liquid state, solidifies in the fistula and serves as a framework for new connective tissue. The paste is absorbed and the fistula obliterated.

7. Bismuth paste injection will not heal out sinuses where sequestra are present. Same must be removed before injection.

8. The bismuth paste injections are painless and produce no unpleasant or dangerous symptoms.

SOME IMPORTANT POINTS IN THE TREATMENT OF SYPHILIS.*

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It has seemed to me utterly impossible to attempt a complete presentation of so vast a subject as the treatment of syphilis within the limits of a necessarily brief paper, and I have, therefore, chosen to discuss a few phases of it only in a somewhat aphoristic form.

Of the utmost importance is the question as to the proper time when to begin the constitutional treatment of a recent infection with syphilis. Without entering upon lengthy details, largely of historical interest, it may be said as a preliminary that all efforts at aborting the disease by the excision of the primary lesion have proven, in the overwhelming majority of cases, absolute failures. Jadassohn is to-day one of the very few authorities who still practice that almost hopeless procedure which does not even seem to modify the intensity of the succeeding manifestations. The presence of an indurated chancre means more than a local lesion; it indicates a systemic infection which has reached beyond the surgeon's knife.

Traditional teaching has heretofore been pretty universally in favor of waiting with constitutional treatment until the advent of the so-called secondaries. It is time to break with that tradition. To permit for weeks the continued dissemination and multiplication of a virus within the system without interference is a practice unknown in the management of any other disease. We are told that preventive treatment succeeds only in delaying the appearance of constitutional symptoms, which later on will assert themselves after all in an irregular and unmanage-

* Part of a Symposium on Syphilis before the Chicago Medical Society, Jan. 29, 1908. For discussion see page 469.

able fashion. But this fable is easily discredited by thousands of actual tests.

To my mind the proper time to begin the constitutional treatment of syphilis is the moment when we are absolutely sure of our diagnosis and when our patient shares our conviction. Whether the demonstration of the spirochætæ in the primary lesion is sufficient for such an assurance is a matter which at the present moment may be considered still *sub judice*. Whenever that or any other organism will eventually have been proven as the real cause of syphilis beyond all doubt, our attitude toward that momentous question will be sufficiently fortified. But by that time we may hope for an entire revolution in our therapeutics of syphilis. At present we must continue to use careful clinical methods for our diagnosis, such as the regular observation of the temperature, repeated palpation of the lymph glands, occasional blood counts, and close estimation of the patient's subjective symptoms, such as nocturnal headaches, and the like. Whenever these factors are in favor of a diagnosis of syphilis, when the chronology in the development of the chancre is in accord with our knowledge, we should be ready for active medication even without waiting for the appearance of an exanthem. Even the conservatives are willing to admit that when the location of the primary lesion is such as to be especially conspicuous or to endanger a neighboring organ, as, for instance, when situated on the eyelid or the lip, it is best to commence treatment at once. Such an admission shows the weakness of their whole attitude. To illustrate some of the difficulties which, however, may be presented in practice, permit me to cite two illustrative cases:

1. A young gentleman, the brother of a physician, came to me last spring with an insignificant-looking, small lesion on his glans penis which had appeared within ten days after recent exposure. For three months I kept him under close observation without noticing any further development, neither objective nor subjective symptoms being sufficiently pronounced to justify the responsibility of pronouncing the judgment of syphilis and of planning a treatment for years. At last a faint roseola made its appearance, the ganglia became enlarged and the diagnosis was finally made possible.

2. In another instance a prominent lawyer of the city was brought to me with what appeared to be a typical chancre of the lower lip. A well-developed submental bubo facilitated the recognition of the real nature of the lesion. But the man stoutly resented the allegation of having syphilis and insisted upon waiting for further proofs. These did not fail to appear within six weeks, when treatment was begun.

Whenever our diagnosis is made, the treatment to be given should be as energetic as the constitution of our patient may permit. That mercury in some form should be the remedy selected need not be emphasized. Among the many methods of administering it, however, only two deserve, to my mind, the distinction "energetic," namely, inunctions and injections. I know only too well that, particularly in this country, the internal use of mercury is still most popular; in fact, protoiodid of mer-

cury occupies almost completely the average physician's therapeutic horizon, to the exclusion of everything else. It is far from me to deny that often satisfactory results are reached with this drug and I certainly would not like to miss it for the purpose of occasional intermediate treatment, but it can never be compared in efficiency to the two first mentioned methods. Its often irritative effect upon the digestive tract, the impossibility of insuring its complete absorption, dependence upon the patient's regularity in taking his medicine, the inclination of the average patient to continue for months with this same remedy and thus creating an undue tolerance, besides depriving the physician of the occasion to regularly examine him, are some of the objections to that practice, especially during the first part of the disease.

In this connection I might mention one other drug, intended for internal use, which is my first choice whenever neither inunctions nor injections can be given for reasons beyond our control. I refer to the tannate of mercury, first introduced by Lustgarten in 1884 and about which it was my privilege to make a brief communication to this society during the same year. This preparation has since become well known, but as far as I can judge is not used as extensively as it deserves.

As to mercurial inunctions, they need no defense. That method has stood the test of centuries and still occupies to-day its firm place, chiefly at certain resorts in this country and abroad. I have never met with any serious objection to it on the part of my patients, nor have I found it necessary to employ a professional rubber. The many substitutes for the well-known official blue ointment, such as mercurial soap, mercurized lanolin and others, offer no particular advantage. For the most recent of these surrogates, Mitin mercury, introduced by Jessner, of Königsberg, it is claimed that it produces a minimum of irritation upon the skin and that it is absorbed by it in less than half the time required for the ordinary blue ointment. The claim that the effect of mercurial inunctions is due not to an absorption by the skin, but to the evaporation of the metallic mercury, which then is inhaled, has led to a number of innovations. A small amount of the salve contained in a little bag suspended around the neck, or the wearing of a specially prepared mercurolint, are said to act as promptly as the more cumbersome antiquated method; but I have no practical experience with these fads.

We are ever again confronted with the claim made by physicians at Hot Springs and similar places that the inunctions as carried out there are so much more effective on account of the simultaneous use of their natural hot baths. This is a pardonable trade cry, but not borne out by scientific facts. Down there they insist upon giving the rubbings upon the backs of the patients, which is the only place that the patients can not reach themselves. With the mastery of the quite simple technic we can do equally as well at home. The plain advantage of the resorts lies in the fact that patients there give up completely to their cure, and under the continued watchfulness of their doctor behave better than they would at home.

In the last fifteen years I have, however, had less and less occasion to

employ inunctions, since the injection method, on account of its elegance and almost mathematical accuracy, has proved so far superior. It seems strange that this form of treatment should have found so few followers in this country. It invariably appeals to intelligent patients who are only too willing to submit to a form of medication which in the most direct manner acts upon their diseased blood, which relieves them of all thought of taking their little pills, which necessitates no special dietary precautions, which is clean and brings them in regular contact with their physician for the purpose of close observation, and which, if skilfully administered, causes no undue amount of pain. Their efficiency is never disclaimed; not even by those authors who write of them largely as a matter of hearsay. Their dangers are enormously exaggerated and with the observance of proper technic, a suitable instrumentarium and a reasonable asepsis can be reduced to practically *nil*.

In speaking of mercurial injections, it is proper to differentiate between soluble and insoluble preparations. The former are absorbed quickly and eliminated promptly and, therefore, have to be repeated often. The latter form a sort of depot from which small amounts of mercury are continually transferred to the general blood current and need to be given only in intervals of several days.

For many years and until rather recently I have employed only soluble salts, chiefly the bichlorid of mercury, in solutions of 1 to 1½ per cent., to which 2 per cent. of chlorid of sodium was added. I have always given them as deep intramuscular injections in the region of the gluteal muscles with a syringe mounted in hard rubber, the only metal part being the needle, about 1½ inches long, which frequently requires replacing on account of the corroding effect of the mercurial salt. The therapeutic effect has ever been prompt, and in over 20,000 injections given there has never been any serious accident. There has never followed suppuration; occasionally infiltrations would result which yielded in a short time. One single time the needle broke off. That happened in a young woman, a professional dancer, who just in the critical moment made a sort of a saltarello motion. She still carries the needle in her posterior department without any harm and has never desired its removal. Twice the needle inadvertently slipped into the subcutaneous tissue and caused a gradual sloughing of the skin in a small area. I frankly report these accidents to show their extreme rarity and their ultimate harmlessness.

Radically different from these intramuscular injections are the intravenous injections of bichlorid, which quite recently have found some warm advocates even in this country, although introduced as early as 1894 by Baccelli. The underlying principle is certainly sound in that they form the quickest possible way of introducing the supposed antidote directly into the blood. The technic is somewhat more complicated and as far as I can judge not free from danger or inconvenience, and, while they insure a rapid introduction of the desired remedy into the system, the question remains whether the equally rapid elimination is not a disadvantage rather than a benefit. I have no personal experience with

this method nor do I propose, unless better convinced of its claimed superiority over other methods, to acquire any. I may quote Welander, a recognized authority, who in a recent article draws the following conclusions after extensive tests. He says:

"Intravenous injection of bichlorid of mercury is the quickest method of introducing mercury into the system, but, on account of many inconveniences, local disturbances of no small degree (phlebitis, infiltrates, erythema, edema) and the short time that the mercury remains in the system, it is suited to such cases only where a prompt mercurial effect is desired."

The attempts of substituting arsenic for the injected mercury in the form of atoxyl (meta arsenious acid-anilin) or of enesol, a combination of salicylated mercury with arsenic, are of too recent date to permit of intelligent judgment as to their value.

Concerning my attitude toward the injection of the insoluble salts, especially the salicylate of mercury, I must confess to a change of front on my part. Ever since the fatal results in four cases reported in 1884 by Runeberg in the *Deutsche Medicinische Wochenschrift* after injections with calomel, and noticing time and again the reports in the current literature of serious, sometimes fatal, accidents after the injection of Lang's gray oil and other emulsions or suspensions of insoluble preparations, I had retained an almost unconquerable horror against that kind of treatment, and even last June at the meeting of the American Medical Association I was free to express my earnest objections to them. But a very suggestive paper by Hartung on the value of these injections chiefly in cases of beginning locomotor ataxia, and personal interviews with their most enthusiastic advocate in this country, Dr. Gottheil, of New York, have finally led me to try the method, and an experience of about six months in about thirty cases has made me, so far at least, very optimistic. I might refer to several articles by Gottheil for elaborate details as to the technic which I have followed in the main. I have used a sterilized 10 per cent. suspension of neutral salicylate of mercury in liquid vaselin, injected into the depth of the gluteal muscles in intervals of four to seven days, with a special syringe made after Gottheil's suggestions. The efficiency of the treatment was especially conspicuous in a case of extensive ulcerations of the tongue of long standing in a man in whom this formed the only treatment employed. After only four injections given within about two weeks the tongue was completely healed. In five cases of deep-seated old syphilis, three with beginning atactic symptoms, two others with symptoms of pachymeningitis, the results so far are certainly encouraging.

With a strict observance of aseptic details the only danger of insoluble injections is the possibility of striking a blood vessel and thus producing lung embolism. But the observation of the never-to-be-violated rule of removing the barrel of the syringe from the needle after it is fully introduced and waiting for a few seconds for the bulging out of blood which promptly occurs when the point of the needle has pierced a vein, will easily protect one against that danger. The great advantage of these

over the bichlorid injections is their almost total painlessness and the small number of treatments required, which is particularly valuable in patients who live some distance from town.

The employment of these injections, especially in the deep-seated forms of syphilis, leads me to another important point. We have been taught for many years to consider mercury as the sovereign remedy for the recent manifestations of syphilis and to rely upon the iodids for the treatment of late symptoms. There seems to be a complete reversal of form on the part of most authorities in this respect, not that the early use of mercury is discredited, but its usefulness for the so-called tertiary lesions is everywhere admitted, and to the iodids is given largely the rôle of an adjuvant or of a substitute when mercury is not well borne. The finding of *Spirochætæ pallidæ* in tertiary lesions and particularly in the organs of congenitally syphilitic children has had much influence in changing our views.

Before dismissing the subject of mercurial treatment I feel like adding that the one thing which is liable to form a stumbling block against its successful employment is the proneness of some patients to develop early mercurial stomatitis in such a degree as to make any further attempt at mercurial treatment hazardous. The strictest care of the teeth and whenever possible the preliminary attention to any derangement existent should always be a *conditio sine qua non*.

To discuss more fully the use of the iodids and the many modern substitutes for them, to ventilate particularly the question of the enormously large doses of potassium iodid as advocated by neurologists, might lead me into dangerous territory. I may say, however, that some of the substitutes recommended, as, for instance, the iodo nucleoid and iodalbin which has quite recently been brought upon the market, seem to offer a fair advantage over the older forms in some respect, inasmuch as their action upon the skin is certainly very mild, nor do they seem to produce any other undesirable symptoms of iodism.

I can not refrain from making a remark upon the general non-medicinal care of our syphilitic patients. The regulation of their habits, proper diet, particular directions in regard to the use of alcohol and tobacco and in regard to sexual indulgence are matters of such paramount importance for the final result that too much attention can not be given them. I had one sad experience which forcibly illustrated to me the influence of the general mode of life of the patient upon the progress of the disease. A few years ago a lawyer in the city consulted me for a fresh infection with syphilis. In due course of time an energetic treatment was begun, but after a limited number of injections and when his condition seemed in every way satisfactory he insisted upon going to a neighboring town in Indiana, where he was engaged in an important contested will case. A short time afterward I was consulted by long distance telephone by the patient's brother, a prominent practitioner in that town, who told me that the lawyer in the midst of a public plea in court had become speechless. I had no hesitation in attributing this aphasia to cerebral syphilitic complications. I advised an energetic

course of inunctions. These were followed by a favorable result in a short time when the patient returned to my care and resumed his previously interrupted course of injections. But within a few weeks he again had grown over-confident, returned to the task of representing his client, evidently overworked himself, again developed cerebral symptoms and succumbed.

Another often neglected matter is attention to the local manifestations and employment of energetic means to stop their progress. This is a subject to which I have devoted a special paper some years ago. I have made the observation that many physicians in treating their syphilitic patients content themselves with the prescribing of constitutional remedies without any regard to the local lesions, even if they are destructive in nature. It is particularly in this class of cases of extensive ulcerations upon the skin and mucous membranes where properly employed topical treatment shows the most brilliant results.

The great question how long we should continue with our specific treatment is, indeed, hard to answer in a satisfactory manner. It would be the simplest to say that we should continue until the patient is cured; but unfortunately we have so far no definite criteria for such an accomplishment. Neither the most perfect freedom of the skin and mucosæ from any lesions, nor the total absence of enlarged glands are a sufficient guarantee for a cure. The minutest examinations of the blood will fail to give us satisfactory evidence. Even the production of a healthy offspring may mean no more than a latency of the disease. Under such circumstances we must rely exclusively upon experience in deciding how long we should best keep up active medication. The general concensus of opinion at the present time favors a more or less uninterrupted course of two to three years, and many authorities would rather exceed that term than shorten it.

A physician in the city whom I had under observation for many years on account of a serious case of syphilis, acquired in his professional work, once gave me this answer to my repeated advice to at last take a rest from his continued annual mercurial rubbings. He said: "I would rather have mercurial poisoning than locomotor ataxia." He has kept up his treatment for over ten years and he is perfectly well to-day.

That individualization in this regard as, in fact, in regard to all questions related to the treatment of syphilis is of the greatest importance, can not be gainsaid. A mild case may be treated by gentle methods; a severe case should be fought with the utmost persistence. Under no circumstances should we yield to the temptation of allowing our patients ever to share our pessimitic feelings concerning the ultimate results in the treatment of syphilis. We can never foretell what the final outcome in any given case may be. We have no right to boast that by the employment of such or any other method we can prevent the occurrence of that dreaded sequel of syphilis, locomotor ataxia. But we should ever be mindful of the fact that a majority of our patients who undergo a proper course of treatment get well and remain well.

MEMOIR OF COLUMBUS BARLOW, M.D.

MARY BARLOW.
ROBINSON, ILL.

Dr. Columbus Barlow, son of Jesse and Rebecca Biggs Barlow, was born near Eaton, Ill., April 27, 1847, and was the fourth in a direct line of physicians, his father and mother both practicing in an early day. His father at one time had a large herb garden, and his knowledge of herbs and their uses was marvelous and known far and near. As men of that day had more than one calling, he was also a cabinet maker, and his handiwork, much of which still is in existence, is artistic and beautifully made. In the remoter line these doctors are of a family which has achieved things professionally, for there stand out among them such men as John Marshall, the great Chief Justice, and Joel Barlow, poet and statesman.

Columbus was the youngest of fourteen children, there being three sets and three of his stepbrothers and sisters intermarrying. When 7 years old he was afflicted with white swelling which left him a cripple for life; during this illness his father died, leaving the request that this boy should have the medical education. As a child he was delicate and petted and spoiled by every one. He watched other children run and play almost enviously, always telling them that some time he would know enough to cure himself. Thus rose and grew his determination to study and know the human body. All through life this fact that he was a cripple was a drawback, but it seemed to strengthen his determination to accomplish great mental things.

During these long days of his childhood while he was confined to the house he cultivated a love for books and read everything that was obtainable, even to the medical journals which his mother took. When about 10 he bought the first book of his own—a copy of "Parley's Panorama," which he bought of an agent with money that had been given him. When able he attended the country school, going until he had completed its course. He was always on the hunt for new information and was inquisitive in the search to the distraction of every one that came to the house.

After his school days he worked in a wagon and carriage shop for six years, to raise money for his professional education, reading several hours a day, and for the last two years devoting eight hours a day to medical study—Dr. Samuel J. Griffith directing his studies—and eight hours to manual labor. He was now 24 years old, and in this year married Miss Marie Athey, who died three years later, as did their two children. When on her death bed she requested her husband, after she was gone, to marry Mrs. Sarah Smith Price, who was then a widow and was with her at the time of her death. This he did three years afterward, and it need not be said that a marriage was never more felicitous.

Dr. Barlow attended two courses of lectures at the Cincinnati College of Medicine and Surgery. He was compelled to economize while in school, having not more than one suit of clothes at a time and often doing his own cooking. He graduated June 27, 1877, and on July 4 following entered upon the practice of medicine at Eaton. This was a small town and his practice was that of the country doctor. His office was small and poorly equipped, all of the furniture being made by his own hands. He made his chairs, book case and operating table, which had all the movements of the more modern ones. The first box of drugs he received was emptied and nailed up again, using it for a stool; it was in almost constant use during his practice in Eaton, which continued until 1895. The box is still in existence, and carved upon its sides are the names of men who studied under him—a dozen names, all a credit to the profession. At one time his office was called the Medical College, and all these students became workers in medical societies and christian members of some one or the other of the churches. All of his life he was helping boys to attain an education, both by encouragement and by furnishing means. His practice at Eaton was a strenuous and laborious one. He treated men, women and children for miles around, going through all weathers and at all hours. Often he visited a patient when he was the sicker of the two. He treated rich and poor alike and often left money instead of collecting it. Among his papers was found a slip with a number of Bible references written and at the top, "Bible authority for helping the poor." He believed in this and lived up to it. He was not only the people's doctor, but he helped them and sympathized with them in every way and was always using every effort to build up and better the little community in which he lived.

While yet a student in medicine, in 1873 he drew up a subscription paper for a church, "to be built by a society, to be known as the Union Church Society, to be owned and controlled by the society, and to be used by all religious denominations for lectures on scientific subjects, or anything else not of an immoral nature." The church was completed within three months and another built on the same plan in a neighboring town, and the constitution and by-laws written by the Doctor are still sufficient to settle all difficulties. An interesting paper was found in his possession, in which he gives the history of the Union Sunday School of Eaton. He organized it himself in an old log school house, and in this paper he tells how the boys would meet and play marbles or horse shoe until the crowd gathered. He goes on to tell that there were only two members of the whole Sunday school that could offer prayers, and if they were not there they did without. Its first superintendent was the village blacksmith, a man who was anything but a Christian and was elected as a joke, but who filled the office with credit and took quite an interest in the work. Dr. Barlow ends by telling the good they did and how many of them became Bible students.

In 1881 Dr. Barlow took a postgraduate course at Rush Medical College, Chicago; did some postgraduate work in 1893, and in 1894 took the general course at the Postgraduate Medical School, Chicago.

In 1895 he moved with his family to Robinson in order to get better school advantages for his children. Here he went into partnership with Dr. Firebaugh and remained with him for eight years. Soon after moving there he was made an elder in the Christian Church, and was always useful and active in every good work. He served as President of the School Board for some time, was a help in the temperance work, was Vice-president of the Anti-Tuberculosis League, and had all of his plans made to attend the meeting at Atlanta, but at the last minute gave it up and stayed at home to help vote out saloons. In one of his papers on the temperance cause he says: "Now, why intelligent men with a spark of humanity in them would publicly advocate the selling of deadly poison—'tis a slow poison but a sure one and will do its work effectually in time—which they know will destroy those who use it both soul and body, is more than I can understand. It consumes their property, impoverishes their families, makes brutes of themselves, widows of their wives and orphans of their children. Alcohol makes a hell of what otherwise might be a paradise. It destroys family ties, renders hundreds of women and children homeless, and turns husbands and fathers into fiends."

Mrs. Firebaugh speaks of Dr. Barlow in her book, "The Physician's Wife," as "The Elder Doctor." "One day when the doctor of our household had brought down two physicians to dinner we had a little talk on the subject of surgery. I happened to remark to the Elder Physician that it was just about a year ago that the Doctor had taken me out to his village to spend the day with his good wife while he assisted the Elder Physician in amputating a leg—or the lower part of the leg. I use the term 'Elder Physician' simply to distinguish this doctor from the young doctor who accompanied him."

"Yes," said the Elder Physician, "and that woman gets around as well as she ever did, if not better."

"She wears an artificial limb, I suppose?"

"Yes; one that I made for her myself."

"You made it? I did not know a doctor could do such things. Why did not she get one ready made?"

"I wrote to a large firm in Chicago that manufactures artificial limbs, telling them that, because of the limb having lain for months in a flexed position on a pillow, it has become anchylosed" (dear unprofessional reader, if such there be, that only means that the knee joint had become stiff and refused to extend as it should) "and she also has bursitis from resting her knee on a chair and crawling round to do her work. They replied they would not undertake to fit an artificial limb to a stump of that kind unless the woman came up so that they might see it for themselves, and even then they could not guarantee entire satisfaction. Well, they were very poor people and it was simply out of the question for her to go to that expense. Then the limb would have cost at least seventy-five dollars and perhaps twice as much, so I just said to myself, if they can do that job, I can."

No one knowing the elder physician as I do would doubt for a moment that he could, and I listened in deep admiration to one whose skill

in making a patient whole again transcended anything that had ever fallen within my personal knowledge.

"I made a plaster cast of the leg, which was about this shape"—illustrating by a drawing. "Then, in order that the foot should accommodate itself to the flexed condition of the knee, I had it made so that the whole thing looks like this" (another drawing). "You see, the village blacksmith, the shoemaker and I put our heads together, and the result is an artificial limb."

"But where is the foot?" said I, looking at the drawing.

"I have not the foot made yet, but I am going to make it. She walks on a block now."

"Well, great are the resources of a country doctor," said I, laughing.

"The half has never been told about the country doctor yet," replied the Elder Physician, with a smile.

Dr. Barlow took an active interest in medical societies and instilled that interest in all of his students. These societies came next to his God and his family in his affections. He was known to be one of the best workers in them in his part of the state. He loved them not only for their scientific good, but for their social part, always advocating that the more physicians attended and the better acquainted they became with each other, learning each others character, the more ethical and the more brotherly feeling they would have for each other and the less petty jealousy. In an article on the importance of medical societies he says in part: "Through the influence of medical societies human existence has been prolonged, and the splendid homes all over the country maintained in their present sanitary condition. And, more than that, it cements the doctors together in one great fraternity, which is monumental of strength and efficiency when its forces are properly harmonized."

From 1883 to 1906 he missed but eight meetings of the Crawford County Medical Society (which meets bimonthly), and during his residence at Eaton he had to drive nine miles to attend them. In Dr. Birch's paper on "The Crawford County Medical Society in the Past" he says: "To return to this first meeting of the society, as I have said, no papers were read, but the interchange of ideas, professional and otherwise, the social intercourse indulged in—all created an enthusiasm which did much toward reviving the debilitated organization to a vigorous and active condition. I remember that Dr. Rafferty arose and said that, as Dr. Barlow was sponsor, or godfather, or something of that sort, it was in order that he (Dr. Barlow) make a speech, which he did, and it was at that time I was first impressed with the earnestness of soul and determination of purpose on the part of this gentleman to make the society well worthy of place on the roster of county societies throughout the state, and I remarked to myself that with even a few men among its members with such fixed ideas as Dr. Barlow advanced regarding the high moral tone, professional pride and following regular methods there could be no doubt of sustaining our society in future years within the bounds of efficiency expected of an organization of qualified medical gentlemen. I think there are men here to-day who have watched the

course of the society during the past two decades in following the lines laid down by Dr. Barlow and others that July afternoon who will say it was the most happy inspiration that brought out such ideas for fundamental principles and the founders builded even better than they knew."

Dr. Barlow was President of the Crawford County Medical Society in 1883, Secretary 1892-3, a member of the Æsculapian Society of the Wabash Valley, held the office of President of the Illinois Medical Society, being a member of the Board of Councilors, and of the American Medical Association; a Vice-president of the National Tuberculosis Commission; was an auxiliary committeeman of the first Pan-American Medical Congress, and had been twice appointed United States Pension Examining Surgeon.

To medical literature he had contributed papers on "Brain Lesions," *Cincinnati Lancet-Clinic,* March 6, 1886. This paper was prompted by the killing of a man by a brother physician who was a victim of brain lesion. "Remote Effects of Sunstroke," June 6, 1891; "Physicians' Fees," *Medical Age,* Feb. 25, 1889; "Higher Medical Education," Philadelphia *Times and Register,* June 22, 1889; "Summer Diarrheas of Children," and a paper on anthrax read before the Æsculapian Society of the Wabash Valley, 1892-1893; "Rheumatic Spinal Affections," Transactions of the Illinois State Medical Society, 1894; "Rheumatic Anesthesia," *Cincinnati Lancet-Clinic,* Jan. 12, 1895; "Insanity Due to Bright's Disease," and others. In addition to these he published a book, "Day Dreams of a Doctor," which deserves more than a passing notice. It was reviewed by the press all over the country with much praise and he received many personal letters in regard to it from other authors and friends, among them Donald G. Mitchell, Dr. Matthews and one from Miss Marie C. Brehm. He told in a simple, honest way the story of an intelligent, thoughtful, dutiful, every-day doctor, portraying a physician's life and its influence upon himself and others. Later he wrote a paper on "Bacteria and Their Relations to Higher Forms of Life," read before the Æsculapian Society, October, 1897, published in the *Indiana Medical Journal,* December, 1897; paper on "Rheumatism," read before the Crawford County Medical Society, October, 1899; "The Prophylaxis of Typhoid Fever," read before the Æsculapian Society, May, 1901, and before the Crawford County Medical Society, June, 1905; "Historic Relations of Faith Cure," published in THE ILLINOIS MEDICAL JOURNAL, February, 1904; "Care of Typhoid Fever," read before the Crawford County Medical Society, November, 1902; "Suggestion as a Therapeutic Agent," published in *The Hypnotic Magazine,* May, 1897; "The Medico-legal Aspect of Bright's Disease," published in THE ILLINOIS MEDICAL JOURNAL, March, 1900; "The Passing of Alcohol in Practice," read before the Crawford County Medical Society, May, 1900; "The Psychosis in Bright's Disease," read before the State Medical Society, September, 1902; "The Medical Society," read before the County Society; "The Care of the Eyes During School Life," read before the Teachers' meeting; "Use of the Microscope by the Country Doctor," read before the

County Society; "Later Day Dreams," read before the County Society; "Personal Hygiene," read before the Æsculapian Society, and "Bacteria of the Farm," read at the Farmers' Institute. His paper on "Personal Hygiene" was the most elaborate and written more in detail than any of his other papers.

Dr. Barlow had been ailing for several years before his death, and it was only by constant pleading on the part of his family that he was persuaded to leave his practice and take a trip to Colorado. On the day they started he almost missed his train to visit some poor patients away off in the worst parts of town. He was always loyal to his profession, and his perseverance was remarkable. He attended medical meetings almost to the last and took part in them just as long as his strength would permit. He had an indomitable will, and it is to that will, perhaps, more than to anything else, that he owed his success. He was a deep thinker, a careful reasoner, and sound in his judgment, together with a pleasant disposition, which made him a factor long to be remembered.

Through all of his suffering he seldom grew discouraged and always talked about opening a new office. He took a course of treatment at Hot Springs a few weeks before his death, and not until that failed to help him did he begin to give up. He wanted to live for his family and his profession, but the thoughts of death were not even unpleasant to him. He had perfect faith and always said it was just a little change in his life—a little journey and then wait a while until he would see his friends again.

All through his sickness his stepson, Dr. Price, was a help and comfort to him. No men could have been more companionable or more willing to help each other.

The Doctor was confined to his bed only a little more than two weeks, during which time he seemed to suffer but little. He just slept his life away Oct. 8, 1907, peaceful and serene as his whole life had been.

ACUTE OTITIS MEDIA, "EARACHE;" A PLEA FOR ITS EARLIER RECOGNITION.*

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CHICAGO.

The subject which I have selected for this paper is a vital one—not simply to the patient, but to the physician himself. When we consider the appalling ignorance displayed by the majority of the laity—and, I regret to be obliged to add, to a certain proportion of the medical profession—with reference to what is slightingly referred to as "earache;" when one considers how few are the cases that present themselves for treatment in the primary stage, that is to say, before suppuration commences, and especially when one considers the serious termination of a

* Read before the Southern Branch of the Chicago Medical Society, Dec. 19, 1907.

majority of such neglected cases, is it not surprising that more is not written on the subject? The more so when we take note of the excellent results obtained by the early recognition and proper treatment of this inflammatory condition. How few are there among us who have not at some time or another suffered from such an attack, and the children who are so prone to it, and the babies!

How frequently is the physician called—generally at night—to attend an infant frantic with pain and with high temperature. He promptly pronounces it gastro-enteritis, teething or something of that ilk, never casting a thought upon the ear, as that organ is the last to be suspected, remaining in utter ignorance until the next visit, when he finds the child quiet, the temperature possibly normal, but with a very unpleasant discharge from the ear; and while it is true this sero-mucous discharge may resolve itself in three or four days, nevertheless infection is liable to occur, and it becomes purulent. This need not necessarily follow, however, if a proper degree of cleanliness is observed.

The purpose of this paper is to endeavor to curtail the number of such cases by instructing and educating the people as to the proper care of the ear.

How can this best be accomplished? Does it not strike you that the family physician should be best qualified to impart this knowledge? Is it not by him the patient is first seen? Possibly while attending another member of the family he is informed that one of the children had a bad earache during the night—perhaps has it still. If he does not point out the serious results liable to accrue from such a condition, is he not to be condemned? Home treatment for these cases is responsible for a vast army of deaf people and usually consists in the administration of one remedy, "laudanum and sweet oil," which at best only prolongs the disorder and is of absolutely no use whatsoever. For a clearer demonstration of the destruction that may occur, a brief consideration of a few landmarks of the tympanic cavity may not be out of place. To my mind Oppenheimer's division of this region into three sections is the most practical—the superior, middle and inferior. Superiorly the upper portion of the attic is bounded below by the horizontal facial canal and the tendon of the tensor tympani muscle. This portion contains the head of the malleus and the body of the incus; consequently the superior tympanic space represents that portion of the cavity lying above a line drawn horizontally through the short process of the malleus.

The middle section is separated from the upper by the neck and body of the malleus and the external and anterior ligaments; also by folds of mucous membrane (and I desire to lay special stress upon these folds, because in a state of inflammation they may entirely shut off the upper section)—the inferior is the floor of the tympanum, with sulcus tympanicus, in close relation to the internal carotid artery, and jugular fossa. As a rule the membrana tympani is divided into the four well-marked segments, but Fougeray has happily made an excellent subdivision. He draws an imaginary line which passes almost directly over the round window, which virtually places, as you will readily see, all

of the important structures above this line. The tegmen is just above the annulus or bony ring, and it should be remembered that the petroso-squamosal suture is not always closed. Thus it will be seen that the epitympanic space is the most important, not simply on account of its anatomical position, but because micro-organisms that attack this part are of greater vitality and the infection is much more virulent. This, I believe, is due to the complete occlusion caused by redundencies of mucous membrane mentioned above, which shuts off the air. We also often find the labyrinthine or inner wall extremely thin. How readily, therefore, may an inflammatory condition occur through the tegmen to the membranes of the brain, through the aditus and antrum to the mastoid cells, through the fenestræ to the vestibule, semicircular canals and cochlea, or through direct effect upon the blood vessels.

Politzer has shown us that perforations in Shrapnell's membrane are caused primarily by a general inflammation which subsequently becomes localized in the attic, which are responsible for adhesions of the membrana tympani and inner wall. If spontaneous perforation occurs and the case proceeds to suppuration, it is another disease and the curative treatment of that disease is in order. But, on the other hand, we have another serious aspect. That in which perforation does not occur, but in which serious changes take place within the tympanic cavity—through failure of complete resolution—resulting in several conditions. As we already know, there is an amount of débris—which deposits itself on the ossicles, muscles and ligaments—sometimes to the extent of ossification, and, in any event, producing ankylosis, while the mucous membrane may become chronically inflamed. Fluid may be stored in the tympanum, causing impaired hearing. When this fluid finally departs the change of tension produces tinnitus and the pressure from without easily depresses the relaxed membrane, producing impaired hearing. This relaxed condition may cause adhesions to the posterior wall, and, lastly, if the fluid is absorbed it may leave a chronic inflammation of a hypertrophic or proliferative type.

The etiological factors are manifold and include scarlet fever, diphtheria, bronchitis, whooping cough, cerebrospinal meningitis, measles, smallpox, influenza, pneumonia, tonsillitis or hypertrophied tonsils, adenoids, polypus, any hypertrophic or inflammatory or syphilitic condition of the nasal passages, post nares or pharynx. The introduction of fluids into the middle ear by means of the nasal douche or while bathing. Surf bathing, prolonged bathing or diving in still water, the pernicious habit of violently blowing the nose, exposure to wet and cold, traumatic rupture of the membrana tympani with infection, and occasionally following the use of the salicylates, quinin or any of the coal tar derivatives, which should always be given with extreme caution. From 80 to 90 per cent. of all ear inflammations emanate from the nasopharynx.

SYMPTOMS.

Pain in the ear or radiating around the ear and side of the head, most severe at night, with a sense of fullness. Very often there is tin-

nitus and autophony. In a child there is usually high temperature or the attack may be ushered in with convulsions and vomiting simulating meningitis. The hearing is usually impaired, but not in all cases during the painful stage, as I have found it sometimes markedly increased, even to a painful extent. This hyperesthesia, I believe, may be due to involvement of membranous labyrinth. Bone conduction upon the median line is referred to the affected side. If upon making pressure on the tragus the patient winces, or if relief is obtained by breathing in the ear or the pouring in of hot water, one may be reasonably sure of the diagnosis. On examination the tympanic membrane will be found hyperemic and often bulging with the landmarks generally distorted.

TREATMENT.

The first indications are naturally for the relief of pain and to endeavor to abort the attack. Absolute rest in bed, a saline, a hypodermic for an adult, an anodyne for a child, with aconite for fever. Dry heat in the form of a hot water bag or Japanese hand stove or bags of salt or bran applied over the ear. Many writers advocate the use of hot water or steam, but I believe moist heat is objectionable, for, as Dench succinctly says, "it favors venous congestion, softens the tissues and hastens local necrosis, rather aiding the development of the process we desire to abort." Where heat fails to subdue the pain, Bacon suggests the use of cups, wet or dry, or blisters, or the withdrawal of from two to four ounces of blood by means of the artificial leech from in front of the tragus. Four remedies are extensively used for instillation, morphin, cocain, atropin and a solution of carbolic acid in glycerin (1 to 20). The first three may be used either separately or combined in aqueous solution.

Oily solutions or cold applications should never be used in the auditory canal. A procedure which I have practiced in a number of cases with success, and which I have not seen advocated by any one, is gentle catheterization. It cures, I believe, by emptying and ventilating the tympanic cavity and by preventing total occlusion of the attic by folds of mucous membrane. If in a few hours, and a very few, you fail to abort the pain, freely incise the membrana tympani. In fact, if on examination you find a red bulging membrane or any indication of fluid in the tympanic cavity it is imperative to incise at once. There is danger in delay and no harm is done by this operation, for the membrane heals in from twenty-four to thirty-six hours and leaves no evidence of having been touched. By this I do not mean a paracentesis, a paracentesis is absolute, but a free incision where the bulging is most prominent (which is very often in Shrapnell's membrane), or, if no particular point presents itself, in the posterior inferior quadrant in a curved direction, downward and forward within the clear membrane—even to the extent of going through the membrane of the internal tympanic wall—of sufficient size to procure ample drainage, as you can do no harm in the lower segment.

A 10 per cent. solution of cocain, warmed, may be instilled into the canal, but, notwithstanding the assertion of many that it affords relief, I have not found it to do so. A whiff of chloroform for a child—or nitrous oxid for an adult is better, if, indeed, anything is needed, as the pain is momentary. The canal should first be rendered aseptic by irrigating with a warm solution of mercury bichlorid. The operation should be followed by frequent irrigations (every two to four hours, according to the severity of the symptoms and character of the discharge) of mild antiseptic solutions or plain sterilized warm water. For this purpose boric acid, potassium permanganate (1-3000), corrosive sublimate (1 to 8000), sodium chlorid (4 per cent.) may be used, but care must be taken, especially in children, to prevent poisonous solutions passing through the Eustachian tube and being swallowed. After drying the canal with absorbent cotton, boric acid in impalpable powder may be insufflated, but only in sufficient quantity to dust the parts, under no circumstances whatsover should a large amount be introduced. It is liable to cause the formation of an impacted mass and occlude the canal interfering with free drainage. After a few days when the discharge is much lessened, the irrigations may be omitted, but the canal should be dried and insufflations of boric acid continued together with gentle catheterization to ventilate and remove the débris from the tympanic canal.

Blake advises in mild cases scarifications of the membrane. This procedure, to my mind, needs a very proficient hand. While I do not wish to be understood as stating that it is absolutely imperative to incise —as there are many cases in which heat, the application of leeches, etc., cure, and quickly—I do assert that if severe pain continues after a few hours of such procedures, or if the myringa is hyperemic and bulging or there is any indication of fluid within, incise immediately. If spontaneous perforation has already taken place, it may often be necessary to enlarge it, if small, to insure free drainage. The discharge is usually much freer in children than in adults, with high temperature for several days after drainage is freely established. A continued high temperature, however, is not a favorable sign. In all cases a bacteriologic examination should be made. In mild cases we have usually staphylococci present. In the severer cases—particularly in those with a rapid onset—the infection will be generally that of a streptococcus or diplococcus—in one of its various forms. The prognosis should be guarded if we have either of the latter, but if a staphylococcus it is favorable. The general health of the patient is often a great factor in these conditions and should be supported with the administration of iron, hypophosphites, etc.

In conclusion I desire to advocate the advisability of establishing school inspection for aural as well as ocular cases—to suggest that the otoscope and aural specula form a part of a physician's armamentarium, and, finally, to emphasize the urgent necessity of early attention to this class of cases.

100 State Street.

ACUTE BRONCHITIS AND SOME OF ITS PECULIAR PHASES.*

S. W. SCHNECK, M.D.,
MT. CARMEL, ILL.

I have chosen this common disease for discussion because of its practical importance, especially to us who live in this particular locality, with such an extremely low altitude, such great humidity and an ever-changing temperature with great variations. We have an almost continuous epidemic during the late winter and early spring—January, February, March—and often a case comes to us up into the summer months. However, we find that a few weeks of dry weather, either hot or cold, brings relief to the cases at hand and soon stops the supply of new cases. Although not particularly contagious, as usually considered, we find time after time that it goes through a family of children in much the same manner as la grippe or severe colds do, and especially where the sleeping apartment is crowded, or when children occupy the same bed. This is so common that we should isolate the case as much as possible.

ETIOLOGY.

That this disease is due to germ infection seems to be without question, but I have been unable to find any literature on the subject showing any research in this direction. In some cases I have attempted to study the particular specific cause, and in each microscopic examination of the sputum taken from these cases found a bacillus which, like the tubercle bacillus and smegma bacillus, did not destain with acid alcohol after a two-minute stain in warm carbol fuchsin. Just what this germ is will require much work and will probably be found to be one of the more than a hundred species isolated by Miller from the air passages. Another kindred species is the micrococcus lanceolatus isolated by Sternberg, and this may be an important factor.

SYMPTOMS.

One of the first symptoms is a slight coryza, but more often a peculiar feeling of dryness of tongue and throat, characterized by a very heavy rough white fur on tongue with intensely red tip and edges, slight fever, which reaches 102 and 103 degrees on about the third day. Often the initial symptom is croup, which recurs each evening for two or three days before any bronchial symptoms develop, thus showing the gradual extension of the infection in the mucous membranes of the respiratory tract. Nausea, constant and severe, is a marked symptom; often no food or medicine may be retained for three to five days. A dusky dry appearance of the skin is usually noticed, eyes seem glassy and have an unnatural expression, the lips are an unusual bright red. Secretion of the urine is very scanty and may have complete suppression for twenty-four or forty-eight hours. Urine has a dark or smoky appearance, high specific gravity and occasionally albumin. The bowels are always constipated, and sometimes even with the largest doses of physic

* Read at Annual Meeting of the Wabash County Practitioners' Medical Society 1907.

we are unable to obtain any action for forty-eight hours; even large doses of calomel have a very slow and unsatisfactory effect.

In children especially there is a most irritable condition of the nervous system, enough in some cases to suggest to one the possibility of meningitis. The cough, at first slight and hacking, becomes distressing, dry, brassy and almost incessant, the expectoration often not appearing for five or seven days. Respirations shallow and unusually rapid.

COURSE.

The course of the disease is very variable, and in mild cases lasts from five to ten days, in the graver ones fifteen to thirty days, or may become subacute and remain from mid-winter until warm weather. In only a small per cent., about 1 to 2 per 100 cases, does the disease invade the air cells and capillary tube and thus terminate in a broncho pneumonia. However, it is quite evident that not only the bronchial mucosa is involved, but often the mucosa of the whole respiratory tract is affected.

PHYSICAL SIGNS.

Very frequently no physical signs are present during the first four days of this disease, and here is often a common obstacle in the way of diagnosis, but if one has a clear view of the early symptoms in mind there is not much difficulty. Inspection reveals the rapidity and rather shallow character of the respirations. Palpation in the later stages shows the presence of mucus râles. Percussion may elicit slight increase of resonance. The fine sibilant and sonorous râles are best heard between and under the scapulæ. However, as the disease progresses loud mucous râles may be heard all over the surface of the lungs.

In this disease we are never able to predict just when, if at all, the air cells may be invaded, but this is more apt to be the case if the disease is preceded by one of the infectious diseases. The very old and very young suffer more severe attacks than those in youth and young adult periods of life. The inability of very young children to expectorate the mucus is an important feature and a great deal is aspirated back into the smaller bronchi. Some cases are followed by a chronic bronchitis or more often a subacute form which lasts from mid-winter until the appearance of warm weather. Often an attack is followed by relapses and subsequent attacks, especially in young children.

TREATMENT.

For convenience, we will divide the treatment into five heads—Prophylaxis, General Measures, Climate, Medicinal and After-Treatment.

Prophylaxis.—Clothe the feet warmly and keep them dry. Keep children off cold floors. Do not remain in a draft with thin clothing. Avoid extreme exertion causing rapid inhalation of dusty or cold air. Ventilate houses and schools and especially sleeping rooms. Thin wool or flannellette night clothes, with removal of all underwear worn during the day. No feather beds. Use wool blankets rather than cotton comforts.

In using warm cleansing baths always take them before retiring, followed by a cold splash or plunge. Treat the ordinary winter cough. Feed strumous children on cod-liver oil.

General Measures.—As soon as a diagnosis is made it is the duty of the physician to see that a properly made cotton jacket is applied, with gauze lining and a cover of oil silk or oil muslin, or some of the paste made of Fuller's earth and glycerin may be tried. Steam the room with turpentine in the boiler. In some of the dry cases a tent may be made over the patient's bed and the patient steamed with lime water or vinegar to hasten expectoration.

That climate has a considerable influence on these cases is shown by some patients who have while in this locality a great increase in an ordinarily mild bronchitis. The dryness of the atmosphere seems to have much more effect on the temperature, and it is on this point that we should make our decision in selecting a climate to send our patients to. Southwestern Texas meets all the requirements and in and about San Antonio we often get most gratifying results.

Medicinal Treatment.—(a) Expectorants: Brown mixture, ammonium chlorid, turpentine emulsion, guaiacol carbonate, creosote carbonate or spirits of aromatic ammonia may be used. (b) Stimulants and tonics: Spirits ammonia aromatic, whiskey, strychnin, spirits etheris compound. (c) Eliminative: Calomel at onset and repeated at intervals of two days during the course of the disease. (d) Sedative: Dovers' powder to check cough and produce sufficient rest; phenacetin to reduce temperature and discomfort; aconite is very valuable in early stages. (e) Alterative: The calomel usually meets all indications except in chronic cases, when the iodids are perhaps more valuable.

After-Treatment.—After-treatment is often neglected and our patient left a favorable victim for tuberculosis or recurrent bronchitis. Cod-liver oil and hypophosphites in those who are emaciated can not be over-estimated, and in most cases we should at least put the patient on one of the ferrugenous preparations or we may use syrup hypophosphites comp. Continue to wear the cotton jacket till all symptoms have disappeared.

I wish to cite three cases of rather a peculiar type which came under my notice:

CASE 1.—Male, 39 years old, driver, previous sickness and family history negative. Took an ordinary cold, followed by a slight fever, which at the end of the third day reached 104 degrees and remained between 103 and 104 degrees for about ten days. Cough excessive, expectoration muco-pus and very free. Microscopic examination showed a bacillus which did not destain with acid alcohol after carbo-fuchsin stain. No areas of consolidation; at times there would be areas in the lungs which would be almost free from râles, and in one or two days the disease would shift from that part to another and it would clear up, only to be invaded again later. This kept on for about two weeks. In the treatment of this case all the above-mentioned expectorants and others were used without effect, and the best results were noticed after large doses of calomel, later potassium iodid, strychnia being used in full doses from the beginning of the disease. Cod-liver oil seemed to aid during convalescence.

CASE 2.—Female, aged 17. Healthy from childhood; no tuberculosis in family history. Case started as an ordinary catarrhal bronchitis, but rapidly assumed a grave type, temperature going to 105, and remaining about 104 after the fifth day of her illness, which terminated in death, due to asphyxia on the seventeenth day. This case resembled Case 1, only the inability to expectorate the tough muco-pus. There were never any subcrepitant râles to indicate invasion of air cells. Percussion negative. Again in this case were found the same or similar bacilli as in Case 1, which did not destain in acid alcohol. Treatment seemed to make no impression on this case at all or at any time during disease.

CASE 3.—Male, 25; salesman; family history negative. Had several slight attacks of bronchitis and always subject to taking colds with a cough. Developed a mild catarrhal disturbance in nose, throat, and larynx, which spread in four or five days; larger bronchial tubes were invaded and in turn the smaller ones also. On the eighth day after bronchitis developed, a few patches of exudate developed on inside of lips and cheeks. This pseudo-membrane rapidly spread over all of the mouth, throat and tongue. On the expiration of forty-eight hours the nasal membranes became involved, so were the bronchial membranes, as evidenced by the expectoration of casts of bronchi. Soon the conjunctiva showed the same pseudo-membrane, and lastly the glans penis and as far in the urethra as three-fourths of an inch. Temperature ascended to 106 and remained so for thirty-six hours in spite of cold pack and frequent sponging in iced water. Patient refused nourishment for five or six days, and took very little medicine. Dyspnea and general cyanosis intense. Best results from large doses of calomel. Strychnin was given constantly. Creosote carbonate was used during most of the time. Patient made an uneventful recovery in eight weeks. This is the first case I have ever heard of in which all the membranes were involved.

Osler mentions some cases of fibrinous bronchitis, in which patches appeared on the tonsils. Weil reports twenty cases of acute fibrinous bronchitis, but I know of no mention being made by him of any membranes being involved except the bronchial membranes. N. S. Davis reports two fatal cases of fibrinous bronchitis.

THE DUTY OF THE CITY TOWARD INSANITARY MUNICIPAL PLAGUE SPOTS.*

ALEXANDER H. REVELL.
CHICAGO.

Let me confess that I have been dreaming a little bit about Chicago—not, I hope, dreaming in idle vagaries but in plans which I hope will bear the sunlight of practical common sense. Almost every man, no matter how unsentimental his temperament, cherishes a fondness for the place where his childhood was spent. Every association of my boyhood is connected with what is now the very business heart of Chicago; two or three of the busiest and most crowded downtown streets of the Chicago of to-day constituted my playground. So in dreaming and planning of certain things which I believe will be greatly for the betterment of this city I am only obeying a common, human impulse, a sentiment as universal as the races—the desire to do something for the particular place and locality about which centers all my boyish associations. This is the only excuse for the plan which I offer—and I need no other.

* Address delivered at the Irish Fellowship Club, Chicago, Dec. 21, 1907.

Perhaps the greatest trouble with all plans for the social betterment of the poor in great cities is that they are based upon guesswork instead of upon demonstrated facts. Of course the noble work done by Hull House and the other social settlements which have been largely formed upon that model has brought to us a considerable mass of information, of well established facts, so analyzed and arranged as to be of practical service in working out some of these pressing problems of social betterment. But the fact remains that there are certain problems which belong to the city itself as a municipality; these problems are distinctly within the province of the city and do not rightly or naturally lend themselves to solution by private or individual agency. And it is my conviction that the only way in which Chicago will be able to solve these problems is by beginning gradually and making the experiments which will develop the facts, by which larger action may be governed and guided.

What manufacturer would presume to launch into the making of some chemical product without a long series of laboratory tests and experiments as a basis of procedure? Such a course would be an open confession of incompetency. Now, what I am about to urge amounts to the establishment by the city of a laboratory which will, on a small scale at first, give us the essential facts and elements necessary for an intelligent campaign for the betterment of the condition of the poor in the crowded tenement districts, not a sudden spurt of philanthropic enthusiasm, but a solid and progressive movement which builds for long results for all time to come. Such a movement must have demonstrated facts, comparative showings, analyzed results from under its feet, or it can never make sound progress.

It is worse than useless to go to municipal authorities and ask them to back a big city enterprise or movement without there have been investigations first which have brought to life a clear knowledge of the conditions. In the matter I am to present to you to-day I have been somewhat of an observer of conditions myself. But far better, I offer you the observations of Commissioner of Health Dr. William A. Evans, than whom Chicago has not had a better health official in many years. I have taken some excerpts from an address delivered by Dr. Evans several weeks ago, together with comments thereon by a Chicago morning paper. These have been submitted to Dr. Evans, who replies that the statements attributed to him are correct and also the comments by the newspaper. Here are the statements sent to Dr. Evans:

"War upon tuberculosis by Health Commissioner William A. Evans, who wants to clean the tenements to prevent a spread of the scourge. When the Council Finance Committee makes its next yearly appropriation it will be asked to provide for at least ten additional inspectors for the department of health. These men Dr. Evans wishes to send through the tenements of the city from the Ghetto to South Chicago to prevent the sanitary abuses said to have become customary in such places. The health department divides the city of Chicago into fifteen sanitary districts, the idea being that a sanitary district should be composed of territory in which the living conditions are fairly uniform. Five of these

sanitary districts are relatively bad and ten are good. The very undesirable parts of Chicago, from a sanitary standpoint, are found in these five districts.

"What Dr. Evans particularly desires is a city law moulded after the Philadelphia idea. The eastern city allows its health department to abate any nuisance at the expense of the owner of the premises if he or she refuses to do so in two weeks after notification. In Chicago the health department must sue, the offending owner is fined, and then perhaps fined the second and third time, with the net result of nothing in the way of improvement.

"One string of dilapidated frame structures which the commissioner believes ought to be wiped out instantly is at the stub ends of May and Carpenter streets. They also front on a mud road containing a railroad siding, which the children of the neighborhood call Canal street, and they abut on the north side of the Chicago & Northwestern Railroad. This is part of the fifth sanitary district, which, during the epidemic of 1906, sent 900 babies to the graveyards. It is a settlement that abounds with children, who freely state, 'There is lots of sickness and lots of doctors come around.' In some respects this particular district is worse than the West Side Ghetto. Occupants of the houses own them, but they pay ground rent, some as low as $20 a year, to the estate of the owners.

"The houses range from ten feet wide and one story high to thirty feet and three stories in height. Many are one and one-half stories. They average about three persons to a living room, and the description of one on Carpenter street may be made to fit all. In the dirty front basement, which is really a cellar, was a filthy bed with rags for a covering and a torn straw mattress. At the foot stood a pail, the inside of which was stained with the foam of stale beer. Then there was a pick and shovel, a washboiler, the newness of which indicated little service; several geese and chickens, a dog and three unkempt children. On the outside, in the chill air, stood a girl of 13 in her bare feet. The only blade of grass seen was in the mouth of a horse attached to a lumber wagon from an adjacent yard. Lumber and coal yards, tanneries and the railroad tracks formed the 'scenery.' The windows were covered with mud. There seemed to be more doors than anything else. Each door leads to a special apartment, and then there are rooms that are reached through a common door. There can be no mistake about the houses being so arranged as to accommodate the greatest number possible.

"Other undesirable places are: Between Halsted street and Center avenue and Forty-seventh and Forty-ninth streets; north of North avenue, between Ashland avenue and the river; between Thirteenth and Eighteenth streets, east and west, principally west of Halsted street; between Eighty-second and Ninety-second streets in the vicinity of Commercial avenue, where the 'relay bed system' is the worst."

This completes the statements, which, as I said before, are endorsed as correct by Dr. Evans.

The people of Chicago are expending vast sums and giving much

attention to those who are afflicted and in need. We have great public institutions, hospitals and charities, which, at great expense to the taxpayers, care for all or nearly all who seek them, and do so without charge. We have innumerable relief and aid societies which help the ill and indigent in their homes. The county government expends large sums in outdoor relief. There are many hospitals, in all of which there is set apart space for those who can not afford to pay. The churches, true to their pledges, help to care for those who need and deserve help. And, lastly, we have the splendid Salvation Army with its pleading tambourine. Through all of these varied agencies of charity much good is being done. Then add to all this the money expended by the people for police, fire and health protection, for justice and criminal courts, etc., and remember that a large percentage of this is paid out at the wrong time.

After all, we have not reached the cause, we have not found the antitoxin for the great black plague of poverty. Our methods do not seek to prevent or even cure it, but merely to alleviate it. Much as we spend in Chicago for the purpose of charity, it is insignificant when compared with what is spent in England. Recent figures show that in England and Wales the poor relief expenditures by the government are equal to $2.00 per capita on the entire population. At this rate Cook County would spend about five times as much as it now spends on account of poor relief. It would spend nearly twice as much as the present entire county tax for all purposes, half as much as our public schools cost. The awful growth of pauperism in England is ascribed to unwise methods in dealing with it.

In a recent speech by an anti-sweat meeting in London George Bernard Shaw, the famous playwright, said that $500,000,000 a year is being wasted in so-called charities and poor reliefs which do not correct or cure existing conditions. While I do not agree with Mr. Shaw that the money expended is wasted, I am convinced that new methods, designed to anticipate the trouble and deal with the causes of poverty and sickness, and not with their effects, are what is needed. I am firmly convinced that, to a great extent, poverty is due to ill health with the natural indisposition which accompanies it. Sickness, lassitude, idleness and poverty go hand in hand.

It is true that vice and crime must not be lost sight of, but, after all, it is not true that ill health and consequent idleness and poverty are potential factors in producing the degenerate and born criminal. What can be expected of a child born and raised in an unhealthy, depressing, unwholesome and forbidding environment?

Recently some poor but offending philosopher was before a Chicago municipal judge. He expressed his conviction that modern conditions were responsible for most of the wrong doings of the poor people, and one of the several bits of philosophy which he evolved was: "If one of our bank presidents, with his wife and children, had to live in O'Brien street, how long would he keep sober, and how long would his wife preserve her theories of life? I know," he said, "that you can't cure a condi-

tion by getting drunk, but sometimes a man's thoughts hark back to the green fields and golden sunsets of his youth and he has to shut his eyes to blot out the present reality."

Can cheerful, manly, courageous beings be developed in unhealthy surroundings? Can anything be more depressing than the helpless consciousness of the man or woman that the limits of the jungle district of a great city describe the metes and the bounds of his or her possibilities in life? "What's the use?" comes as a mocking answer to every endeavor, to every promise to break away from the intolerable slavery of unclean and evil things. The worst of it all is in the fact that in some environment not only breaks down the body but depraves the mind. Pessimism takes the place of optimism and the world takes on the hateful aspect of social discontent.

Much attention and study has been given to the subject of the inducing causes of poverty. A few years ago, before the problem was thoroughly gone into, poverty was ascribed for the most part to such causes as drink, laziness, extravagance and incapability. The investigation of more recent years have tended to change the views of students of sociology; instead of looking at immediate causes, they sought for and discovered the causes which lie beyond them. A prominent writer on this phase of the matter says: "It is possible that in the analysis of the causes of poverty emphasis has been placed unduly on personal causes such as intemperance, shiftlessness and inefficiency, as compared with causes that lie in the environment, such as disease resulting from insanitary surroundings and the growing inefficiency of the bread winner due to undermined vitality." Economists have duly recognized the effect of climate upon national efficiency, but climate in the sense which it affects earning capacity is not simply a question of lassitude. It includes rather all these elements of the immediate difficult environment which gives vigor, elasticity, buoyancy and recuperative power. It does its work at night when the worker is asleep, quite as much as when he is employed.

Society—and by society I mean the organized element—has a well-defined and far-reaching obligation to perform. Government undertakes to protect life and property. It establishes laws and enforces them. It backs and endeavors to sustain the economic system. In fact, the state as organized is itself an economic system. In making rules for the majority it too often forgets the minority. It has been said—and well and wisely said—that there is no tyranny as heartless and so absolute as the tyranny of the majority. In other words, half the world does not know how the other half lives. But there is a growing consciousness, if not conscience, concerning humanity among the majority. This feeling is broader than sympathy. It is wisdom and justice. It seeks to put the objects above the need of sympathy.

Now bring the matter straight home to Chicago. Consider the conditions which exist here. The density of population in one portion of this city is three times that of the most crowded areas of Tokio or Calcutta. It is true Chicago's poor quarters are not so crowded as those of New York. But in making such comparison other New York

conditions are less objectionable than those of Chicago. The buildings are better, the removal of garbage is accomplished much more effectively, the drainage and other conditions are superior and the streets are paved and kept clean. It must also be considered that overcrowding is not a matter of population to the acre of ground. In some of our large, tall and fine apartment buildings and residential hotels the population, measured by ground area, is large, but the occupants of such buildings are not crowded together in small rooms.

The buildings in the tenement quarters of Chicago, unlike those of other large cities, are, as a rule, former family residences and have been readapted to the use of several families. In most cases the buildings of one sort and another have been erected on the rear end of the lot until, in the crowded portions of the city, more than three-fourths of the lot's surface is covered. Nearly all such buildings are of wood. Carefully prepared statistics show that about one-third of the front buildings are of two or more stories, while those on the rear portions of the lot are generally of one story. These areas, hundreds of blocks of them, are crowded with people living on the average of nearly two persons in every room. The space for each person in these crowded quarters averages about four by eight feet, or thirty-two square feet to a person. In this close contact all the acts of nature are performed. Children are born, the sick lie, waste away and die. Cooking is carried on, washing and bathing—if done at all—is done here.

The worst features of these crowded quarters is their primary unfitness for habitation. Our county jail allows small space for each person, but the jail is clean and well ventilated and lighted. No modern prison or public institution of any sort would be permitted to house its population in the narrow spaces that are allotted to humanity in the crowded portions of Chicago. These economic prisons for the poor are, for the most part, totally without light and ventilation, at least such light and ventilation as exists is rather the result of accident than of design. Debauched by their own uncomfortable environments, the people in these congested quarters of poverty become unspeakably dirty. Then the streets and alleys about them are filthy and unsprinkled. The garbage boxes, overflowing with fermenting waste, poisons the air which enters from without and carries with it baneful effects of its own. No person who is compelled to live in such an environment can be healthy in mind or body. It is true that many survive such conditions, but they survive in spite of them and do not reach the full stature of manhood or womanhood which they would have obtained if they had been brought up in decent surroundings. It is easy to see how, under the conditions which I have portrayed, diseases and mental depravity are fostered.

One of the greatest indictments against our social system is the manner in which it deals—or neglects to deal—with disease, especially contagious diseases. Consider tuberculosis in the United States; in all the hospitals 8,000 beds are provided for consumptives—4,500 of them free beds. This provision will not accommodate one-hundredth part of those who require treatment for consumption. In the United States are thirty-two special dispensaries, at which 9,000 patients are treated every year.

The lack of beds in hospitals compels those who are afflicted and in need of treatment and care to wait, wait, wait until some patient dies and makes place for another. But with all the waiting, the vast majority of persons afflicted with tuberculosis are without care. The hundreds of thousands of consumptives who find no competent care and treatment live in contact with their fellows, marry and intermarry, and so scatter the great white plague broadcast. Dr. Theodore B. Sachs recently found fifty-six cases of tuberculosis in one river ward.

Humanity will not outgrow this condition. As life becomes more complex and the conditions of living require closer and more continuous contact of individuals, as operations become more exacting and less hopeful, men and women will become less and less resistant to the disease and an easier prey to consumption. Investigation of cases of consumption which are treated and cured discloses that the individuals afflicted have come out of environments which are essentially conducive to the disease, hotbeds for tuberculosis, easily detected and well understood. Unlike smallpox and scarlet fever, the consumptive patient is not immune to further attack. So when, after much expense and suffering, he is cured he is generally compelled to return to the conditions which in the first place brought him under this disease.

What to do with cured consumptives is one of the gravest problems in caring for them. As consumptives are dealt with, there is literally no economic gain in curing them and sending them back into unwholesome living conditions merely to again acquire the disease, to again become a public burden and to perhaps be cured again, and return again, a constant public burden. In my opinion, the stamping out of tuberculosis is not a medical question at all. It is an economic question—a question of government and law, of making hygienic living possible. The problem is not how to cure those who have acquired the disease and seek to get rid of it, but how to prevent the acquirement.

Fifteen years ago Chicago had perhaps the highest typhoid death rate of any large city in the world. What did we do? Did we build hospitals for curing typhoid, and then more hospitals, and more hospitals, as we are now doing for the care of consumptives? No. We set about obtaining a water supply that would be uncontaminated with typhoid germs. Our drainage system, incomplete as it is, has done much, and our typhoid death rate has approached the vanishing point. Yellow fever has been practically exterminated at Havana. How? Not by building hospitals to cure those who are stricken, but to *remove the causes* of yellow fever. Smallpox, anticipated by vaccination, has been almost entirely eliminated from the list of plagues.

In dealing with those diseases which are engendered by bad living conditions we should consider it our fortunate privilege, as well as our duty, to undertake to provide against them by improving the physical character of our surroundings. Albert Shaw, in his works, "Municipal Government in Great Britain," says: "The abolition of the slums and the destruction of their virus are as feasible as the drainage of the swamp and the total destruction of its 'miasmas'." There is no doubt about what we should do. There is no uncertainty about the possibilities

of what may be done. The only question is, *how* shall we set about improving the conditions in which the great mass of humanity in this great city are compelled to live?

In 1862 George Peabody, the American philanthropist, placed in the hands of trustees, in the city of London, $750,000 for the building of model tenement houses for the poor, to be let to them at moderate rent. This plan proved so successful and the houses were so well patronized that he later increased the fund to $2,500,000, it being known as the "Peabody fund." Since that time London has made great advancement in the direction of properly housing its poor. Power has been given to the London authorities to condemn and tear down unfit tenements. In their places have been erected tenements of the highest possible scientific adaptation for the purposes to which they are to be put. In addition, an effort has been made to secure rapid transit between the city and the suburbs where there is room for the poor to live. Long before London started the movement Paris began a careful supervision of dwelling houses, and from 1872 to 1892 the authorities of that city brought about *the improvement or demolition of* 15,000 *houses in which were housed a half million people.*

Much care is given the matter of housing the poor in Berlin. Burton Holmes tells us, and he is right, that the German metropolis, Berlin, has solved the street problem. Thoroughfares in the poorer districts are kept as scrupulously clean and are repaired as carefully as the show streets through which the kaiser rides in state. *There are no slums in Berlin.* Berlin's by-ways and out-of-the-way places surprise a visitor by reason of their freedom of the unsightly garbage box, the tin cans and the wandering goat, which we have come to regard as necessary adjuncts of a great city's poor quarters.

New York is moving in the same wholesome direction. Chicago stands still. Perhaps not still, for now, more than ever before, attention is being given to the erection and changes of dwelling houses and generally to the condition in which the poor are compelled to live. However, not much attention is given to overcrowding. Really good houses may be overcrowded. In European cities the landlords and lessees are kept under official espionage so that they can not overcrowd buildings. I do not understand that there is any limit to the police powers of the state in matters where public health is involved and, therefore, any law or regulation which can be shown to be a reasonably necessary health regulation can be enacted and enforced. The property rights of greedy and inconsiderate landlords can not prevail against public health requirements.

What are we going to do about it? While I have no hard and fast plan to propose, I am not unprepared to suggest a line of action. The city should begin by assuming a direct supervision over, say at least one block or, for the present, not more than four blocks in one portion. The very worst area should be at first chosen. There is obvious reason for this. Such areas demand the earliest attention. The legal justification for taking hold of the worst places would be much greater than where conditions are more easily to be defended. The housing structures in

such blocks should each and all be investigated and passed upon by competent persons, with such a man as Dr. Evans or some equally well-informed and interested professional man to lead, with a view of determining whether they be retained for use as dwellings or not. Those found to be unfit should be destroyed, and the question of structural fitness should not be the only consideration. It is accepted that human habitations, such as would have to be dealt with in the proceeding which I suggest, should not cover more than a certain proportion of the ground upon which they are placed. All structures in excess of the proportion, beginning with the least fit, should be demolished.

The next step should be to see to it that the buildings permitted to stand are put in proper condition. Every feature of their construction should be considered. The plumbing and all lavatory arrangements should be made sanitary and sufficient. The windows should be arranged so that they could be easily raised or lowered. Calcimining and general renovation should be required. The yards should be kept clean and provision made for the disposal of all waste. The use of space next to the ground in buildings which are placed on posts should not be allowed. Space under sidewalk and stairways should be clean and kept clean. The city should see to it that the garbage is not allowed to accumulate, but removed promptly every day. The streets and alleys should be kept clean and, when necessary, sprinkled. This would establish something like sanitary conditions. Then this block, or group of blocks, should be especially well lighted.

Understand me that I would make an exception of all selected areas and see to it that the service be carried out with respect to them without regard to whether the same sort of service could be rendered in adjacent blocks or in the remainder of the city or not. The purpose of making such areas an exception would be for the trying out of a great social experiment. When the physical conditions were properly regulated and established, the health authorities, who have, and should have, unhampered authority, would designate the number of people who might live in each set of apartments under proper health laws and see to it that the limit is not exceeded. Examination of beds, bedding and all domestic equipment of that kind should be made from time to time and care taken that no insanitary house or household should be allowed to defeat the ultimate success of the entire undertaking. Along with this, perhaps a part of it, though not an absolute essential to its establishment, should be the paving of the streets and planting of trees.

In selecting blocks or areas for this sort of renovation, I would, as already said, take the worst that could possibly be found. Then a complete census should be taken covering every possible feature of interest for a period of years. The persons should be medically examined, especially for tuberculosis. Idleness and drunkenness should be observed and reported. Then, after the renovation had taken place, the same statistic report should be made at regular intervals for the purpose of determining the improvements which may have been induced by the change in environment. At the same time, comparative statistics should

be kept in contiguous blocks which have not received the same attention, if they be similar in character of houses and occupants. And not only should statistics in relation to health be obtained, but those concerning crimes, murders, acts of violence, fires, wife desertion, drunkenness, willful or enforced idleness and all matters vital to moral, physical and economic conditions should be recorded. From time to time a comparison of results should be made and the beneficent effects of the experiment be brought out.

The trial of such an experiment for, say, five years would, in my opinion, show results which would be immensely gratifying, especially so because it might determine that, in addition to the healthful, wholesome features, we might find that many millions of dollars spent for police, for jails, for halls of justice, for fire departments, hospitals, poorhouses, insane asylums and many other institutions of government, for the care of delinquents, to say nothing of the millions disposed in charity, could be saved and a portion thereof spent for *prevention* rather than so much wasted on the cure. It requires, it seems to me, but ordinary common sense to realize that untold millions of the people's money is now expended at the wrong end.

I would like to see the city do it rather than have the work taken up, as many other works are undertaken, by private individuals or clubs. It would show that the municipality is marking out a path of its own in helping to solve the great problem of life, poverty, health and contentment.

If the city will not do it, then perhaps others may.

Gradually, without a shock to any one concerned, after results have been established, the system could be extended and the whole substratum of urban society lifted out of the degradation, the helplessness, the discontent and misery into which it has fallen. This duty devolves upon us. While to do this would be the best thing economically, sordidness should not alone be the incentive. It should be done because it is right and because you and I are our brother's keepers.

THERAPEUTICS OF INFLUENZA.*

JAMES C. GILL, M.D.

CHICAGO.

Statements have gone out from some medical men that no treatment is necessary or is of any special value. Such expressions are wrong and productive of a great deal of harm. As yet medical science has discovered no specific for the cure of this disorder, as well as in many other diseases, but it is our duty as physicians to alleviate suffering and cure if possible. We should not adopt or recommend therapeutic Nihilism nor overdrug our patients. There is no disease or disorder so serious that can not be alleviated by some form of treatment and no disease so slight that should be considered too trifling to receive our attention. In

* Read before West Side Branch of Chicago Medical Society, Jan. 16, 1908.

a short discussion of the treatment of influenza it is impossible to give more than a general outline and omit a consideration of the many complications and sequelæ.

Prophylaxis is all important in this connection. Our patients should be instructed to avoid as far as possible crowded and poorly ventilated rooms, street cars, all public conveyances and gatherings. Their sleeping rooms should be well ventilated and their general health maintained at the highest standard possible. Influenza is easily engrafted upon slight colds, bronchial irritations, etc., and these slight ailments should receive proper attention in order to avoid a more serious condition that may follow.

In the care of one suffering from influenza we should endeavor to place the patient in a large well-ventilated room in which sunlight can be admitted if possible. A good nurse will greatly add to the comfort of the patient and lessen the anxiety of the physician. I should begin the treatment by the administration of calomel followed by a saline, to thoroughly evacuate the bowels and deplete the portal system. A warm bath to act as a diaphoretic and small quantities of cold water by mouth frequently given to relieve thirst and produce diuresis. Pain, which is frequently severe in the beginning and is manifested by headache and a general aching throughout the body, can best be relieved by the cold tar products. Phenacetin, acetanilid or antipyrin, combined with quinin or aspirin which has some physiological action as an eliminant, and small doses of caffein to prevent possible depressing effects of the analgesics, will usually be sufficient to relieve the more distressing symptoms in the beginning.

Temperature which varies from a slight increase above normal to 105 and 106 in severe cases is best combated by hydrotherapy. It will be contended by some that a high temperature in an acute illness of short duration need not receive special consideration, but the fact remains that with the reduction of the temperature the patient feels much relieved, obtains better rest and sleep, and complications are less likely to follow. The methods of using water for this purpose will vary with the individual case and the surroundings of the patient. The tub bath is excellent in some cases, but can not be given in many homes. The wet pack in the hands of a competent nurse can be given in any home and is a ready and easy method to relieve temperature, while sponging can be utilized in many cases where no trained nurse is in attendance. Not only does hydrotherapy reduce temperature, but relieves nervousness and restlessness and increases elimination by stimulation of the peripheral circulation and lymphatics.

Sleeplessness—a distressing symptom in the great majority of cases—may often be overcome by a warm sponge bath at night, especially warm applications to the spine. A glass of hot malted or plain milk is sometimes quieting. When these measures fail, resort must be had to hypnotic drugs. The drug selected will depend upon the individual case, the severity, the complications, idiosyncrasies, etc. Usually trional, veronal, chloralamid or sulphonal will produce the desired results and should be

continued as long as seems necessary. Any apparent ill effects from the use of hypnotics is far overbalanced by the rest obtained.

Cough due to bronchial irritation is usually present in whatever form the disease presents itself and often is a great source of annoyance, preventing the patient from obtaining sufficient sleep and rest. Small doses of codein will control this better than other sedatives and rarely produces any disagreeable effects. As the disease progresses, marked prostration manifests itself. Supporting measures are then indicated. The use of strychnia, caffein and in some cases alcohol will meet the requirements.

Diet.—In the beginning frequently all food or nourishment is repugnant to the patient and should be given with care lest the inability of the patient to digest or assimilate the food further aggravate the distressing symptoms of headache, nausea, vomiting and perverted secretions. It is well to give frequent sips of cold water or acidulated water, malted milk, kumyss, matzoon, milk and lime water, properly prepared broths, in small quantities as the condition of each individual case requires. Later in the disease with the decline of fever, and the development of prostration, more nourishment will be necessary. Egg-nogs, somatose, scraped beef and milk toast may be judiciously given.

Convalescence.—There is perhaps no other acute infectious disease, not excepting typhoid fever, in which convalescence is so prolonged and discouraging to the patient as in influenza. Marked mental depression, sleeplessness and bodily fatigue persist for weeks and in some cases months, and will require greater skill and tact on the part of the physician to handle than the treatment of the disease itself. Tonics will be indicated, such as iron, arsenic, nux vomica and quinin, with mineral acids. An abundance of nutritious and easily digested and assimilable foods. Exercise carefully regulated to avoid increasing bodily fatigue. Massage and electricity will be of benefit in most cases, especially those not strong enough to take some active exercise. A proper amount of sleep must be obtained by the methods already suggested. For the mental depression it may be necessary to advise a change of scene and climate, or some light occupation by which the patient's mind is diverted from himself, will often hasten the recovery.

ILLINOIS MEDICAL JOURNAL

THE OFFICIAL ORGAN OF THE ILLINOIS STATE MEDICAL SOCIETY.

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APRIL, 1908.

THE FUTURE OF THE DISTRICT MEDICAL SOCIETIES.

For many years societies embracing from a half-dozen to twenty counties, known as district or valley medical societies, have existed in the State of Illinois. At least one of them had its origin prior to the organization of the state medical society, and for many years these societies were numerous and accomplished a great deal of good. The members have become attached to these old organizations and are, very properly, quite unwilling to have them wiped out of existence or to see their influence waning. The organization of the profession by counties, under the new plan, bringing the society to the door of a great many men, has often had a disastrous effect on these district societies, and in order to save them from utter extinction it appears necessary to study the matter and make some changes agreeable to present conditions. Fortunately the way seems open for this project, and the only thing necessary is concerted action on the part of all concerned, a willingness to abandon non-essentials and agree on essentials, to give these organizations new life and make them powerful adjuncts to the county and state society. We had thought on this subject a great deal, but had come to no conclusion, when we fortunately received a copy of the Constitution and By-Laws of the Ninth Councilor District of the Indiana State Medical Society, of which Dr. Keiper of Lafayette, is the secretary. This district society has a printed constitution and by-laws, adopted Nov. 16, 1906, which we shall, in brief, review.

The wording of the constitution and by-laws is very similar to the wording of the model constitution and by-laws of the various state societies, and we shall only point out the peculiar parts of its organization.

The purpose is said to be "to federate and bring into one component organization the entire medical profession of the councilor district." "Component societies shall consist of those county medical societies which compose the district." There is a house of delegates, composed of, "first, one delegate elected annually by each component county society; second, the district council, the district councilor; third, ex-officio, the president and secretary, of the district society."

"The meeting is held in October each year." "Funds shall be raised by a single per capita assessment on each component society." Extracts from the by-laws follow:

Membership.—"The name of a physician on a properly certified roster of members of a component society which has paid its annual assessments shall be prima facie evidence of membership of the district society." The house of delegates is a fac simile of that body in the state society, and all other provisions of the by-laws are the same as those of the state society.

The result of this plan of organizing the councilor districts we believe would be equivalent to a second meeting of the state organization. Especially would this be true if the members of the district societies were so arranged that the president of the state society could attend each councilor district meeting and address the combined membership of the district assembled.

The meeting should last at least one day, and probably very soon it would be necessary to have a two days' meeting, and instead of having an attendance of from ten to fifty, as is the case at many district society meetings, there would be not less than 200 in attendance at any meeting.

The meeting should be on or about six months after the meeting of the state society and at such points as can be easily reached by a majority of the members of the district.

The per capita tax with such a large membership could be made very small, as the expense of the organization and meetings should be a little more than nominal.

There would be a great saving of energy on the part of the president of the state society. Dr. Percy spent at least thirty days in attending meetings of the county and district societies during his term of office, and Dr. Baum is attending nearly as many during his term. The state society should hardly call upon its president to give up so much without remuneration, but if the meetings of the district societies were properly arranged the president would be able to meet the officers and most of the members of the county societies without a great expenditure of time or money, and great benefit would result from such a conference. We hope it will be understood that the presentation of this plan is not to injure any existing district societies, but rather to build them up and make them larger and more influential than these organizations have ever been before.

THE DIAGNOSIS OF CONSUMPTION.

The early diagnosis of consumption is the one important problem now before the world. Its importance is not appreciated even by the profession, let alone by the laity. The *Bulletin* of the Chicago Health Department has put the question fairly before the citizens of that metropolis when it counsels the consumptive to ask the question: "Why was not my case diagnosed when it was curable? Was it my fault or my doctor's"? A few such queries on the part of consumptives will be unpleasant to the future happiness of the medical man, and it behooves every practitioner to get in line for self-protection, if for nothing else. Fortunately, the means of diagnosis are being rapidly perfected, and even now we are to be censured if we do not make the test for tuberculosis in every obscure case of whatever nature. It can not be too often repeated that persons in absolutely robust health may contract a tubercular infection and live for weeks and even months without showing any of the usual symptoms of the dread disorder.

The manufacturers are supplying tuberculin for diagnostic purposes at small cost, putting it within the reach of every one, and in Chicago it is furnished free of charge. We extract the following directions for two of the tests from a late issue of the *Bulletin* of the Chicago Health Department, taking them up in the order of their simplicity of application:

"Two kinds of tuberculin are supplied, one for use in the eye, the other for hypodermic use.

"*First.*—The ophthalmo-tuberculin diagnostic test; Method of Application: In order to avoid unnecessarily severe reactions two solutions are prepared of different strengths. The weaker solution (No. 1) is employed first, and if no reaction occurs within forty-eight hours the stronger solution (No. 2) is used in the *opposite* eye.

"The method of operation is as follows: The tube is pushed through the small rubber bulb which accompanies each package until the end is exposed; then both ends of the tube are broken off with the fingers or sterile forceps and the rubber bulb withdrawn until the end of the tube is within the bulb. The end of the tube from which the drop is to be expelled should be carefully wiped with sterile cotton or gauze to remove any small spicules of glass.

"The lid of one eye is pulled down, and by holding the tube parallel with the eye a full drop can be expelled by compressing the rubber bulb. One drop is all that is required and not the entire contents of the tube if the diameter of the same is large. Care should be used that the drop does not overflow on the cheek, which can be easily prevented by holding the lid down until the drop is distributed about the sac. It is advisable to warm the tubes to body temperature if they have been kept in a cool place.

"The second test should be applied to the opposite eye, as the one test appears to sensitize the eye tissue to some degree. The tested eye should be kept from all external irritation as rubbing, dust, wind, smoke, etc.

"Reactions: The first symptoms of a reaction appear in from three to twelve hours in most cases, but may be delayed twenty-four hours and continue for a week. The presence of a reaction is indicated by a scratchy feeling, secretion and redness of the inner canthus, caruncle or lower lid, which may increase and include the entire conjunctiva with edema of lids. There may be a stuffiness of the nostril on the corresponding side, accompanied by a slight coryza. It must be remembered that far advanced cases in which there is much involvement of tissue are not expected to react.

"Contraindications: Any existing disease of the eye or lids, conjunctivitis, blepharitis, trachoma, keratitis and iritis. Eye strain from errors of refraction need not prevent the use of the test so far as has been observed.

"*Second.*—The Use of the Hypodermic Variety: It is furnished in bulbs holding seven minims. It is ready for use as furnished. Take the temperature and pulse for three days, or until satisfied as to their range. Then inject from two to seven minims. Children should have one-half the adult dose. A rise of temperature to 101, a rise of pulse of fifteen beats, general aching and local reaction mean tuberculosis. The reaction usually comes in about eight hours and persists for about twelve hours. Seven minims is five milligrams. A dose which is higher than five milligrams will disclose tuberculosis that is encapsulated and of little or no clinical significance. A three-minim dose to an adult will probably reveal all tuberculosis that is of clinical importance."

A third method, not mentioned by the *Bulletin,* is similar in its technic to vaccination, and can be used in those cases where the eye test or the hypodermic test seem to be contraindicated.

STARTLING STATEMENTS CONCERNING MEDICAL COLLEGES OF CHICAGO AND ST. LOUIS.

At the annual conference of the Committee on Medical Legislation and the National Legislative Council of the American Medical Association, held in Chicago, December 10, 11, 12, 1907, Dr. A. D. Bevan, chairman of the Committee on Medical Education, said among other things: The situation (in the United States) is entirely unsatisfactory from the standpoint of medical education. Eighty of our schools are by no means in an acceptable condition, but on a very lenient marking we might mark them as we would mark a candidate before a state board as to their ability to teach medicine. Thirty-two of them are so absolutely poor that they are little more than diploma mills and should not be recognized by any state board in the Union. In spite of this fact, almost all of these schools are recognized to-day by most of the state boards. That is largely because the state boards are not familiar with the condition in which these schools are. Take, for instance, our own state, Illinois. We have some fourteen medical colleges. *We have more disreputable schools in the city of Chicago than any other city in the Union,* and yet many of the state boards outside of the State of

Illinois recognize all these medical schools. If these state boards would make a direct inspection of these medical schools; if the state board of Minnesota, of New York, California, or any of the states interested in a fair standard of the medical education, would make an inspection of the medical schools in the City of Chicago, they would doubtless refuse to recognize the majority of them as schools in good standing. It is a simple matter for Harvard, Johns Hopkins or the University of Pennsylvania or the University of Minnesota to develop a splendid medical course which rivals the medical course of any medical school in the world, but that does not represent the output of American medical schools. The output is unfortunately largely mixed with the output of the night schools, diploma mills, the schools without proper equipment, the schools that teach medicine to-day no better than it was taught twenty-five years ago.

Dr. Frank J. Lutz, of St. Louis, made the following remarks regarding a school in St. Louis, which is possibly the College of Physicians and Surgeons of that city:

"In 1872 there was organized in St. Louis a medical school which has been running uninterruptedly since, with but very little intermission. In other words, it has been running a good part of the natural life. When we examined and inspected this medical college to see its equipment I was told at the physiologic laboratory that a room had been set aside by the faculty for that purpose, but following the announcement that it must be properly equipped; when I had the pleasure of being shown into it I found that it consisted of several boxes which contained the suits of football players; there was not a single instrument with which to make a physiologic demonstration; not a single apparatus with which a student could make experiments, and the committee of which I was a member said, 'Gentlemen, when do you think you will have the proper outfit?' They replied, 'You are trying to force us; we ought to get a fair chance to equip ourselves.' Since 1872 this school had graduated hundreds and hundreds of men who are doubtless practicing medicine in my state and in neighboring states. When are we going to begin reform?

"Students leave medical schools; they slip through examining boards; they do not know how, but they do so; and in our state, Missouri, until June 15 of last year, we examined everybody who came—blacksmith, preacher and horse doctor, if he presented himself for examination, and we examined him under the law, and we had to do it."

THE ILLINOIS STATE ACADEMY OF SCIENCE.

This body was organized at Springfield, December 7 last, under most encouraging conditions. Interesting addresses were given, a constitution adopted, and officers elected as follows: President, T. C. Chamberlin, University of Chicago, Chicago, Ill.; vice-president, Henry Crew, Northwestern University, Evanston, Ill.; secretary, A. R. Crook, State Museum Natural History, Springfield, Ill.; treasurer, J. C. Hessler, James Millikin University, Decatur, Ill.; 116 persons have already joined the

academy, and, according to the constitution, "active members shall be persons who are interested in scientific work and are residents of the State of Illinois. Each active member shall pay an initiation fee of one dollar and an annual assessment of one dollar." "For election, the candidate's name must be proposed by two members, be approved by a majority of the committee on membership and receive the assent of three-fourths of the members voting."

This academy should appeal to a large number of the medical men, and at the request of Secretary Crook we extend the invitation to all members of the State Medical Society to avail themselves of the advantages offered by membership in the academy. The academy will soon begin the publication of its transactions, which will no doubt be worthy of a place in any library.

DECATUR AND CHARLESTON TAKE NOTICE.

Dr. O. M. Rhodes, Secretary of the McLean County Medical Society, writes THE JOURNAL that a certain W. Earl Flynn and a Miss McIntire, his associate, have been operating in Bloomington under the guise of lecturers on hygiene and teachers of physical culture. After the manner of their kind they have taken every opportunity to derogate the medical profession and have made many statements not in accordance with scientific facts. They endeavor to hold their meetings in the churches and to get their advertisements largely from the pulpit. They bear recommendations purporting to be from the clergy and physicians in towns where they have been working. It is reported that they intend going from Bloomington to Decatur and then to Charleston. The medical profession of these cities as well as all towns in Illinois should be on the lookout for this combination.

Correspondence.

APPRECIATION FROM CALIFORNIA.

PETALUMA, CAL., March 12, 1908.

Editor Illinois Medical Journal:

Enclosed please find money order for the amount due on subscription to THE ILLINOIS MEDICAL JOURNAL to date. I wish THE JOURNAL continued, as I think I get more satisfaction and reliable information out of it than any other journal received. I like especially the clinical cases and discussions as reported by the different medical societies.

Thanking you again for the courtesy extended me, I am

Yours very truly,

A. R. GRAHAM, M.D.

DR. J. H. HOLLISTER COMMENDS THE JOURNAL.

Dr. J. H. Hollister, of 3430 Rhodes Avenue, Chicago, whose membership in the State Medical Society dates back to the fifties, and who served as treasurer for twenty years, dating from 1863, with the exception of 1875, when he was president, has written us commending THE JOURNAL in the following language. His opinion is especially significant because Dr. Hollister has known the organization from its infancy to the present time, and can, therefore, appreciate the remarkable changes which have taken place in the state society since he first began attending the meetings:

EDITOR ILLINOIS MEDICAL JOURNAL, Springfield, Ill.

Dear Doctor: I have been especially interested in the Medical History found in the March number of your JOURNAL as furnished by Dr. Ensign, and have so written him. The men are not many who can do such work from personal knowledge, and I am glad he is putting such history on record. I wish to express my appreciation of the appearance of THE JOURNAL. It is a credit to the society and the state. The editorials also are timely. I commend your effort to stamp out the quacks.

Cordially yours,

J. H. HOLLISTER, M.D.

PRELIMINARY PROGRAM

OF THE

Fifty-Eighth Annual Session of the Illinois State Medical Society, to Be Held at Peoria, May 19, 20 and 21, 1908.

SECTION ONE—MEDICINE.

SECTION OFFICERS.

S. E. MUNSON, Springfield.....*Chairman.*

GEORGE EDWIN BAXTER, Chicago.....*Secretary.*

PROGRAM.

1. Arteriosclerosis. T. J. Pitner, M.D., Jacksonville, Ill.

   Pathology. Extent; widespread throughout vascular system. Variations according to size and location of vessels. Relation to general fibrosis. Parts most frequently affected. Antecedent conditions and causes. Incident to old age, it often occurs in the young. Influence of prolonged muscular strain and high tension. Effects of certain infectious diseases and other poisons and the autointoxication. Signs and symptoms. Early recognition important. The rôle of arteriosclerosis in the origin of disease. Importance as a factor in the etiology of certain diseases of the brain and nervous system, of the heart, kidneys and other organs. A general primary process producing various local lesions. Prophylaxis, treatment.

2. Prognosis in Cardiac Inefficiency. George W. Webster, M.D., Chicago.

3. The Psychopathology of Hysteria. S. T. Robinson, M.D., Edwardsville, Ill.

   The subject is discussed as entirely a psychical ailment. Certain fundamental psychological elements are regarded as furnishing the only key to its solution, on which must depend any logical scheme of treatment. While the not infrequenf close correlation of somatic complications, and even at times of a somatic causation, is admitted, the facts lead to a conclusion that any effort to explain the malady on a materialistic basis must be futile. Moreover, in dealing with such a purely psychic problem, we find the conditions gradually but surely limiting us to the psychological field; when, by tracing the connections through primary psychological truths, we discover the narrowing investigation disclosing much that can not be controverted. Finally, it should be stated that the material of the paper has been assembled very largely from the ideas of foreign workers.

   Discussion to be led by L. H. Mettler, M.D., and Julius Grinker, M.D., Chicago.

4. The Serum Diagnosis of Syphilis. William J. Butler, M.D., Chicago.

   Origin and basis of test. Method of preforming reaction. Its diagnostic value and clinical application. Recent experiments.

SYMPOSIUM ON THERAPEUTICS.

5. Study of Diagnosis and Pathology Should not Lessen Our Confidence in the Intelligent Use of Drugs. Thomas W. Bath, M.D., Bloomington, Ill.

6. Pathology versus Therapeutics. Homer A. Millard, M.D., Minonk, Ill.

7. The Value of Drugs in the Treatment of Disease. E. B. Montgomery, M.D., Quincy, Ill.

   Discussion to be led by H. H. Fletcher, M.D., Winchester, Ill.

8. Necessity of Greater Knowledge of Materia Medica. Arthur R. Edwards, M.D., Chicago.

   Especially of main drugs and of their main and adventitious action; of idiosyncrasies. Need of revising drugs listed as official. Need of cooperation of laboratory man and clinician. Teaching of materia medica and prescription writing. Value of simplicity. Study of action of drugs as well as indications at bedside. To lack of especial study and to inertia of many in profession is due the use of proprietary remedies.

9. Energy Value of Foods. Winfield S. Hall, M.D., Chicago.

   1. Classification of foods on the basis of their dietetic values.
   2. Methods of determining dietetic values.
   3. Relation of dietetic values to energy or heat values.
   4. Method of determining heat values.
   5. Heat values of different classes of foods.
   6. Heat or energy values required under different conditions.

10. The Practical Application of Food Values in Every-Day Practice in the Nutrition of Children from the Age of Nine Months to Puberty. Josephine Milligan, M.D., Jacksonville, Ill.

1. The Principles of Good Feeding.
   1. Adequate repair of waste.
   2. Adequate supply of energy.
      (a) Heart. } Activity.
      (b) Nervous. } Activity.
      (c) Muscular. } Activity.
   3. To furnish sufficient material for growth and development.
2. Demands of Body.
   1. Quality of food.
   2. Quantity of food.
   3. Proper proportion of food.
      1. Proteids.
      2. Fats.
      3. Carbohydrates.
      4. Mineral salts.
      5. Water.
3. Ability to Digest and Assimilate Between the Ages of Nine Months and Two and a Half Years.
4. Ability to Digest and Assimilate Between Two and a Half Years and Puberty.
5. The Food Stuffs Best Adapted to Meet the Demands of the Body.

11. The Control of Hyperacidity by Diet and Drugs. M. Milton Portis, M.D., Chicago.

Experiments were conducted on dogs prepared with a Pawlow stomach. Determinations of the secretory power of the small stomach with various foodstuffs were made and a study of the control of the secretion of HCl by various drugs carried out. A practical demonstration of the method of experimentation will be presented at the meeting.

12. Dietary Control of Gastrointestinal Disorders. Ralph W. Webster, M.D., Ph.D., Chicago.

Normal functions of the gastrointestinal tract. Influence of normal diet on activities. Influence of abnormal diet. Nervous control of gastrointestinal activities. Etiological factors in the production of gastrointestinal disorders. Primary and secondary diseases. General dietary regulations. Special factors in regard to diet.

13. Some Points Concerning the Treatment of Diabetes. With Special Reference to the Use of Oatmeal Diet. James B. Herrick, M.D., Chicago.

Importance of differentiating clinical types of diabetes. Value of other factors than mere estimation of the amount of sugar in the urine in determining the severity of a given case. The principle of tolerance of carbohydrates and practical application of the same treatment. Necessity for carbohydrates and their place in warding off impending coma. The use of drugs. The oatmeal diet of von Noorden, technic of its administration and its importance when properly used as a therapeutic agent.

14. The Drug Treatment of Cardiovascular Condition. Joseph L. Miller, M.D., Chicago.

Importance of accurate knowledge of the action of drugs. Drug nihilism. Foundation of our knowledge of pharmacology based on the action of drugs on normal animals, fallacies in applying this to treatment of diseased conditions, vasoconstrictors, digitalis, strophanthus, caffein camphor, adrenalin; method of using, dangers. Vasodilators, nitroglycerin, nitrites, amyinitrite, indications and dangers. Alcohol in shock, in acute infections. Intravenous digitalis therapy.

Discussion to be led by A. R. Elliott, M.D., Chicago.

15. The Dietetic Treatment of Pulmonary Tuberculosis. Frederick Tice, M.D., Chicago.

Discussion to be led by E. H. Butterfield, M.D., Ottawa, Ill.

16. Some Uses of the X-Ray in the Hands of the Practitioner. George S. Edmondson, M.D., Clinton, Ill.

17. The Technic of the Rest Treatment. Frank P. Norbury, M.D., Jacksonville, Ill.

The rest treatment based on natural means and methods. Every feature has a definite purpose. The success of the whole depends upon the united action of all. The special features are:
Isolation.
Rest in bed.
Feeding.
Massage.
Suggestive therapeutics.
Re-education.
The rest treatment as practiced by the S. Weir Mitchell method is very much misunderstood; consequently, abused and condemned. To

appreciate it requires familiarity with the technic, just as knowledge of technic in other fields of therapeutics is required. Summary of its values in various forms of nervous and mental diseases as observed in 500 cases. Discussion to be led by H. T. Patrick, M.D., Chicago.

18. Baths and Exercise in the Treatment of Heart Disease. Robert H. Babcock, M.D., Chicago.

1. Brief description of Nauheim baths and method of administration, by means of artificial waters. Discussion of their effects and the cases in which they are indicated.
2. Exercises. Only suitable when given by a properly trained assistant. Brief description of resistance exercises, and certain other deep breathing exercises found beneficial. Reasons for their administration, cautions to be employed, and cases in which resistance and other exercises are indicated.

19. Five Hundred Consecutive Cases of Alcoholism. A Clinical Study and Statistic Comparative Report. J. F. Hultgen, M.D., Chicago.

1. Introduction
   - A. The material for this report.
   - B. Classification of drinkers. Is there a normal drinker?
   - C. When does the morbidity due to alcoholism begin?
2. Etiology of alcoholism.
   - A. Direct; psychoses, heredity, exhausting diseases, occupations, etc.
   - B. Indirect; habits, environment, ignorance, misguiding counsels, etc.
3. Method in studying alcoholic patients.
   - A. Immediate cause and causes for patient's consultation.
   - B. Effects of alcohol from the areas of ingestion and of absorption, or through the circulation of the tissue excreting it, and to the nerve-endings, peripheral, cortical, etc.
4. Diagnosis of alcoholism.
   - A. When it exists as the only affection.
   - B. When complicating organic diseases with which it may or may not have any connection.
   - C. As coexistent with psychoses, neuroses or spinal disease.
5. The salient lessons to be gathered from this study. Comparison with views expressed in text-books and literature. Need of unbiased observations. General private practice best way of ascertaining truth about alcoholism.

20. How Shall We Apply the New Tuberculosis Sanitarium Law?

A—The Law; the Possibilities; the Needs It Supplies.

Henry B. Favill, M.D., Chicago.

The act to enable cities and villages to establish and maintain tuberculosis sanatoria recently enacted and now enforced in Illinois.

1. The value of small sanatoria.
   - (a) Experience has abundantly demonstrated that small sanatoria for tuberculosis are as effective as large, though below a certain point not quite so economical.
   - (b) For all tuberculosis patients a thorough course of instruction in the sanatorium method is an advantage.
   - (c) For a very large percentage of the community subject to tuberculosis it is indispensable as an initial step.
   - (d) For another very large percentage it is a far simpler and more practicable procedure than other methods which might be within reach.
2. The desirable distribution of sanatoria.
   - (a) It is of the utmost importance that tuberculosis be dealt with at the earliest possible moment.
   - (b) The facilities for dealing with it should be so accessible as to reduce the element of procrastination and hesitation to the minimum.
   - (c) The ordinary process whereby people from the country or from town without facilities seek the hospitals of the cities, is undesirable and inapplicable in the case of tuberculosis.
   - (d) Fully as much tuberculosis develops in the country as in the city.
   - (e) The more sanatoria that can be established in satisfactory conditions throughout the community, the better will these principles be adhered to.
3. The reflex upon the whole tuberculosis warfare of widely distributed sanatoria.
   - (a) The existence of an institution of a "neighborhood" character, the consequent familiarity with the idea of seeking its assistance; the passing back into the community of those who have been cured and educated in the sanatoria will add tremendously to the sane intelligence of people upon this subject.
   - (b) The presence of such institutions affording the solution of complex problems to the physicians of a locality will stimulate their interest in efficiently dealing with the situation.
   - (c) The gravest difficulty to-day in combating tuberculosis is the inability of a physician to make sufficiently early diagnosis.
   - (d) The presence of an institution properly conducted will make it possible to a large extent for physicians to perfect themselves in diagnosis or to awaken them to their own imperfections.

4. The possibilities whereat in this act for accomplishing its ends.
   (*a*) This act, like any other, is capable of perversion, selfishness, scheming, interested manipulation can in any given instance nullify its value.
   (*b*) The honest intent of any community to do its work well is to be assumed.
   (*c*) The vital point in the efficiency of such institutions will be the wise selection of superintendent, matron or head nurse, as the case may be, who shall be charged with the technic of treatment.
   (*d*) The apparently necessary provision that all reputable physicians may treat their patients in such sanatoria carries with it the possibility of great danger, because of conceivable lack of ability in this direction.
   (*e*) As a practical matter this danger though to be recognized may be set aside: 1. Because at the worst it will not offset the obvious advantages. 2. The tendency will be for all physicians to rapidly acquire sound methods under this opportunity.

B—Resources Now Available. EVERETT J. BROWN, M.D., Decatur, Ill.

1. Resources of state.
2. Resources of the various counties.

Municipal resources.
(*a*) City hospitals.
(*b*) Dispensaries.
Private resources.

C—Dispensary: General Scheme and Application Under the Law.
ETHAN A. GRAY, M.D., Chicago.

Cost. Most economical means of treatment of most tuberculosis patients. Valuable as a means of instruction. Under new law, dispensary would function as "out-patient department." In some local cities the dispensary would take the place of a formal sanatorium.

D—The Sanatorium: Its Function and Value.
J. W. PETTIT, M.D., Ottawa, Ill.

The state as a unit of representation is too large. Not only concentrates the responsibility where it will not be felt, but has a tendency to the establishment of unwieldy institutions. Local sanatoria as provided by the Clackin law more economic and effective. Will result in making provision for much larger number. Where local hospitals exist sanatoria can be conducted under same management, thus reducing cost of administration and equipment.

SECTION TWO—SURGERY.

SECTION OFFICERS.

E. WYLLYS ANDREWS, Chicago..... .....*Chairman.*
W. B. HELM, Rockford.....*Secretary.*

1. Treatment of Joint Tuberculosis. Edward H. Oschner, M.D., Chicago.

The treatment of joint tuberculosis should be considered under three headings: General measures, the joints in general and the individual joints. Under the first general hygiene, dietetics and fresh air. Under the second, immobilization, prevention of secondary infections, vaccination and finally the treatment of mixed infection. Under the third, a consideration of the position under which each joint should be immobilized.

2. Placenta Prævia. With Report of Case. F. D. Hollenbeck, M.D., Chicago.

Definition; history; etiology; symptomatology; prognosis and treatment, with especial reference to the conservative method of handling those cases where diagnosis is made late in pregnancy and at beginning of labor.

3. An Interesting Case in Diagnosis Confined by Surgical Operation. C. B. Horrell, M.D., Galesburg, Ill.

Renal calculus. Diagnostic points without the use of the *x*-ray. Subjective symptoms. Objective signs. Urinalysis.

4. The Treatment of General Peritonitis Complicating Appendicitis. Daniel N. Eisendrath, M.D., Chicago.

Brief view of principal points in pathology and diagnosis of this complication of appendicitis. Although it was formerly regarded as a much dreaded condition, we now feel that we can control the outcome in the majority of cases if seen during the first 24 to 72 hours. The reasons for this improvement are: (*a*) Rapid technic in removing the source, i. e., the appendix. (*b*) A minimum amount of manipulation of the intestines with no irrigation. (*c*) The use of the Fowler position and of the continuous administration per rectum of normal saline solution. How the latter two act will be discussed. Presentation of author's back rest for maintaining Fowler position and also of an apparatus for administering salt solution. Statistics including cases treated at Michael Reese Hospital.

5. Diagnosis and Treatment of Acute Tenosynovitis of the Hand. Allen B. Kanavel, M.D., Chicago.

   A discussion of the anatomical and pathological conditions to be found. Illustrated by lantern slides, showing the position of the tension sheaths with the points at which they most commonly rupture, the secondary foci which develop in the hand and arm, the proper methods of treating the involved tendon sheath, and the complicating abscesses which develop.

6. The Significance of Inflammation and Its Treatment. S. C. Stremmel, M.D., Macomb, Ill.

   Inflammation as one of the chief defenses of the human economy; is it ever pathological? Its present and probable future treatment.

7. Fracture Basis Cranii with Diastasis of Left Temporo-Parietal Articulation, Ending in Complete Recovery. George deTarnowsky, M.D., Chicago.

   Crushing injury of head, forces exerted bilaterally on temporo-parietal bones, resulting in diastasis of left temporo-parietal articulation. Fracture of base by irradiation. Amaurosis, anosmia, facial paralysis on left side. No involvement of auditory nerve. Complete recovery.

8. Some Phases of Frontal Sinus Surgery. A. E. Prince, M.D., Springfield, Ill.

   Anatomical points and their relative bearing on the adjacent structures, the brain, optic nerve, cavity of the orbit and ethmoidal cells; the various operative procedures which are in vogue, both by the general practitioner and the specialist, and the indications leading to the adoption of each procedure. Special consideration of the Ingals' method, Coakley's method, Killian's method, Yankeur's method, and a modification by the author. The presentation of an instrument for facilitating the drainage of the frontal sinus through the nose without external opening. A number of reports and a few cases illustrating the various operations. Exhibition of original head operated upon by Professor Killian, and an exhibition of plates illustrating the relation of the frontal sinus to adjoining structures.

9. Tuberculosis of the Mammary Gland. William Fuller, M.D., Chicago.

10. Psychic Aberrations Associated with the Diseased Prostate Gland. J. F. Percy, M.D., Galesburg, Ill.

11. Resection of the Stomach for Carcinoma, with Report of One Hundred and Sixty-three Cases Operated on in the Breslau (Germany) Clinic. R. A. Noble, M.D., Bloomington, Ill.

12. Intestinal Carcinoma. J. W. Hairgrove, M.D., Jacksonville, Ill.

13. Traumatism of the Brain. J. W. McDonald, M.D., Aurora, Ill.

    Fractures of the skull, their diagnosis and treatment. Will devote most of the consideration to the intracranial lesions, viz., hemorrhage, thrombosis of sinuses; contusions, lacerations and their sequelæ; meningeal and parenchymatous inflammations usually of a septic character.

14. Diagnostics in Spinal Surgery. Julius Grinker, M.D., Chicago.

    A correct history of the past illnesses and injuries is absolutely necessary because of the frequent connection of past trauma with the development of surgical diseases of the spinal cord. Attention should also be paid to the order in which symptoms develop and whether the onset was slow or sudden. The objective examination will concern itself with disorders of (*a*) motility, (*b*) reflexes, (*c*) sensation. The determination of the exact level of disease and what structures in the cord are involved will occupy the greater portion of time. Finally, the relation of the objective cord findings with past and present history and possible findings in other parts of the body will often enable us to make not only a localizing, but also a pathological diagnosis. Modern spinal surgery depends entirely upon modern methods which are based upon the recent painstaking labors of laboratory and clinical neurologists.

15. Surgery of the Spinal Cord, with Special Reference to Traumatic Lesions of the Cord. R. C. Bourland, M.D., Rockford, Ill.

    1. Diagnosis of spinal cord injuries.
    2. Location of the lesion.
    3. Citation of case.
    4. Surgical treatment.
    5. Discussion of recent work in the surgical treatment of spinal cord lesions.

16. Obstetrical Work by the Country Doctor. C. B. Brown, M.D., Sycamore, Ill.

17. Fractures of the Shaft of the Femur. H. C. Mitchell, M.D., Carbondale, Ill.

18. The Third Stage of Labor. E. E. Davis, M.D., Aron, Ill.

    Physiology of separation and expulsion of placenta and membranes. Treatment of third stage. Normal cases. Complications, as retained membranes, adherent placenta. Hemorrhage.

19. Extrauterine Pregnancy and Hematocele, with Cuts and Slides. A. Belcham Keyes, M.D., Chicago.

20. Further Studies in the Diagnosis and Treatment of Fistulous Tracts with Bismuth Paste. Emil G. Beck, M.D., Chicago.

1. Brief review of the work done.
2. Modification in the composition and method of injection.
3. What becomes of the bismuth after injection?
4. Limitations in the use of bismuth injections.
5. Demonstration of cases.
6. Demonstration of stereoscopic radiographs of injected fistulæ.

BORDER-LINE CASES.

1. A Chapter in Medical Gynecology. O. B. Will, M.D., Peoria, Ill.

In which the author deprecates the usual classification of gynecology as a surgical, any more more than a medical specialty, and argues that in their genesis, their diagnostic relationship, their preponderance of motif, and their therapeutic demands, gynecological maladies are more nearly allied to the latter than the former sphere of cultivation. He contends that by far the larger percentage of cases legitimately coming within the specific domain of the gynecological specialist are more plainly related in all their bearings, to the methods and developments of general medicine than to the analytical and curative processes of surgery. He contends that only the greater activity in ablative and reparative work on the pelvic organs of women during the past decade or two, and their spectacular character, have served to bias the popular and professional mind toward surgery, and to correspondingly keep in the background the less sensational but more far-reaching advances in non-operative procedures. Illustrations are not wanting and are cited to show the truth of the foregoing contentions, and to point out the slowly growing tendency in the direction of more conservative measures, or rather those whose curative influence is more in harmony with functional integrity, and in keeping with Nature's processes and demands.

2. The Ophthalmoscope in General Practice. Cecil M. Jack, M.D., Decatur, Ill.

Aids to diagnosis which have been of value to the science of medicine. Reasons why the ophthalmoscope should have a position of more prominence. Reason why it is not more used. How we can become familiar with the use. The instrument. The source of light. The mydriatic. The dark room. The conditions met with in medical practice where the ophthalmoscope can lend aid to the physician. 1. The aid it may give to differentiating between organic and functional disease. 2. Cerebral tumor. 3. Meningitis. 4. Renal disease. 5. Diabetes. 6. Tabes. 7. Disseminated sclerosis. 8. Paresis. 9. Pernicious anemia. 10. Syphilis.

3. Fetal Death in Utero. C. G. Smith, M.D., Red Bud, Ill.

The causes of death of the fetus *in utero* are placed in three classes: Abnormal maternal conditions, diseases truly of the fetus itself, abnormal paternal conditions. Prevention and treatment are considered in accordance with the existing causes of the unfortunate condition. Meddlesome midwifery received attention. Cases of recent occurrence in the writer's practice are reported and deductions are drawn therefrom.

4. A Plea for More Active Cooperation with the Local Secretary. C. Hubart Lovewell, M.D., Chicago.

5. Some Observations on Ophthalmia Neonatorum. Willis O. Nance, M.D., Chicago.

COUNTY AND DISTRICT SOCIETIES

ADAMS COUNTY.

Regular Meeting, Feb. 10, 1908.

The Society met in the Elks' club rooms as usual, with the officers and a good number of the profession in attendance. Letters from Drs. L. Harrison Mettler, D. N. Eisendrath, Emil Ries, Alfred C. Croftan, James F. Percy, Joseph B. Bacon, John Lincoln Porter, Frank P. Norbury, Carl E. Black, and William L. Baum, who were recently elected to honorary membership in our Society, were read. By motion it was decided to celebrate the fifty-eighth anniversary of the founding of this Society at the March meeting by having Dr. J. W. Pettit, of Ottawa, as the speaker of the day. After the members had had luncheon together at Hotel Newcomb, Dr. D. M. Knapp, who visited Wright's clinic in London last summer, gave an interesting paper on "The Opsonic Index." The symposium on diseases of the liver, gall bladder and bile passages was then presented. Dr. Kirk Shawgo discussed the anatomy, functions and disorders of the liver; Dr. Werner, cholangitis, jaundice, hepatitis and perihepatitis; Dr. Montgomery, functions of gall bladder and ducts; Dr. Nickerson, medical treatment of diseases of gall bladder and bile passages; Dr. Christie, Jr., the diagnosis of diseases of liver, gall bladder and bile passages; Dr. Johnston, cholelithiasis, carcinomata of liver and bile passages and surgical treatment of the same. All the papers were quite generally discussed and much interest was shown. The applications of Drs. R. J. Christie, Sr., and Dr. Elizabeth B. Ball were read and referred to the Board of Censors.

Special Meeting, Feb. 27, 1908.

A special meeting of the Society was called to consider a proposition from the Quincy Medical and Library Association to turn over to the County Society their library of some 2,000 volumes. After subscription lists had been circulated the report was made that the sum of $448 had been secured for the purpose of maintaining a library in the County Society. The question of receiving this library from the Medical Library Association was quite fully discussed, and when the vote was taken it was unanimously favorable. By this action the County Society secures a splendid nucleus for their library and also effects the unification of the profession of Quincy and Adams County in one strong medical society—the Adams County.

Regular Meeting, March 9, 1908.

The fifty-eighth anniversary meeting of the Adams County Medical Society was held in the Elks' club rooms on the above date, President Dr. J. H. Rice and a large number of the profession being present. Dr. R. J. Christie, Sr., and Dr. Elizabeth B. Ball were elected to membership. The committee appointed to arrange for the legal reception and transfer of the Medical Library Association's library made their report, and the County Society is now in possession of that fine library. Amendments to the constitution and resolutions as to the control and care of this library were presented and adopted. Adjournment was then had to Hotel Newcomb, where a luncheon was served in compliment to four members of the Adams County Society who have been in practice fifty years or thereabouts. Those thus honored were Dr. Joseph Robbins, Dr. R. J. Christie, Sr., Dr. J. M. Grimes, and Dr. J. G. Williams, and short and felicitous talks were made by each of them. Upon the return to the club rooms Dr. J. W. Pettit, of Ottawa, was introduced and addressed the profession on "Some Facts and Fallacies of the

Tuberculosis Problem and Its Treatment." Dr. Pettit is recognized as the leader and pioneer in the splendid crusade now in operation against tuberculosis and gave a fine address on this subject. In the evening at the Presbyterian Church he addressed an audience which filled that house to standing room on "The Tuberculosis Problem." Dr. Pettit's coming has set to work influences both within the profession and without which will be felt from this time on. A hearty vote of appreciation was given the doctor by the profession of Quincy and Adams County, and the daily press published his address in full. C. A. WELLS, Secretary.

CHAMPAIGN COUNTY.

The Champaign County Medical Society held its regular meeting in the parlors of the Hotel Beardsley Feb. 13, 1908. Meeting called to order at 2 p. m. by Dr. J. S. Mason, President. Program: "Measles and Complications," Dr. Nellie Baker. Discussed by Drs. W. K. Newcomb, J. A. Hoffman, John Marten, Jennie Lyons, C. S. Davis, Ellen Miner, J. S. Mason, and Osbourn. "Suppurative Inflammation of the Kidney," Dr. C. S. Davis. Discussed by Drs. Howard and Davis. At the business meeting following one application for membership was received and referred to the Board of Censors. A communication was read and placed on file from Governor Deneen, thanking the Society for its endorsement of the State Tuberculosis Sanitarium idea. A communication from Dr. George W. Webster, President of the State Board of Health, relative to the proposed symposium on tuberculosis was read and ordered held over until next meeting.

COOK COUNTY.

CHICAGO MEDICAL SOCIETY.

Meeting of Jan. 15, 1908.

A clinical meeting was held Jan. 15, 1908, with the president, Dr. Henry B. Favill, in the chair. Dr. William E. Morgan reported and exhibited a case of traumatic chylous ascites. The case was discussed by Drs. William T. Belfield, Victor C. Baccus, and in closing by Dr. Morgan. Dr. Emil Beck read a paper entitled "A New Method of Diagnosis and Treatment of Tubercular Sinuses and Other Fistulous Tracts." He presented patients and demonstrated radiographs by stereopticon. The paper was discussed by Drs. A. J. Ochsner, Jacob Frank, E. W. Ryerson, Max Reichmann, Henry B. Favill, and in closing by Dr. Beck. Dr. Julius Grinker reported two cases and exhibited the patients: (a) An unusual case of syringomyelia. (b) A case of progressive muscular atrophy of the Landouzy-Dejerine type.

EXHIBITION OF CASE OF TRAUMATIC CHYLOUS ASCITES.

WILLIAM E. MORGAN, M.D., CHICAGO.

The case to which I desire to call your attention this evening was first presented to my notice by Dr. Geo. Glaser of this city eleven weeks ago, and two days after the receipt of the injury which was the cause of his present condition.

While returning from an errand he was run over by a wide-tired wagon such as is used by the large stock-yards firms for delivery of meats, the wagon wheel or wheels passing horizontally across his abdomen just below the costal margins. The immediate shock was severe and accompanied by all the usual symptoms of contusion of the abdominal contents, but without the extreme evidences of ruptured viscera or great internal hemorrhage. The parents refusing consent to immediate operation, the child was put to rest with mild opiates, all nourishment prohibited, and expectant measures adopted. Distressing vomiting persisted for forty-eight hours, the abdominal walls throughout were held in rigidity, and oppressive muscular response, due to right sided tenderness.

From the symptoms and findings I concluded that there had been severe contusion to the liver and other indefinite abdominal viscera, and as the boy was

making marked improvement I advised a continuation of the expectant methods. Soon after this visit, the parents yielded to the appeals of the child for nourishment, and began to give water, then milk and broths, and finding no harmful results, gradually increased to soft diet, the child meanwhile increasing in strength, losing the pain, or rather distress, and making altogether favorable progress except in one regard, viz., a progressive ascitic condition which at the end of two weeks had become so great as to impede respiration and embarrass the heart.

Contrary to the findings in a closed portal obstruction the ascites was not accompanied by dilated and tortuous integumentary veins, but gradually diffused itself over the whole abdominal area and flanks and extended slightly into the skin of penis and scrotum, but not the thighs and legs. The pulse after the first forty-eight hours, though weak, was not markedly increased in frequency, the temperature rose only to 100° F., vomiting, which was never bloody, ceased, the bowels moved quite naturally, no blood in stools, and urine free from blood was voided without assistance.

When I first saw him on the second day after the injury, there was moderate tenderness over the epigastrium and right hypochondrium, and although abdominal rigidity was quite noticable, all of the abdomen could be examined without difficulty and without noticeable distress to the patient. The hepatic area was slightly reduced, there was no piano-percussion evidences of free fluid in the abdomen, no flatness in the flanks or lower abdominal areas, the splenic area was well and normally defined, stomach slightly dilated and a very slight tympanites existed over the rest of the abdomen. I was unable to make out the left kidney, but the right one could not be palpated owing to the rigidity of abdominal walls.

Tapping now became necessary and two gallons and a half of fluid were drawn off at the first sitting, very similar to that which I show you, and which proved to be chyle of the purest type. Careful microscopic examination of this fluid first drawn failed to reveal even a red blood corpuscle, and although he has been tapped regularly at least once a week since that time, no blood has ever been found and no extraneous substances except a few peritoneal endothelia after contrifuging. Owing to the fact that the parents would not allow operation without a guarantee of cure, no operation has been attempted excepting the tapping. In lieu of the scientific value of an operation for closing the leak we have, however, a continuous fountain of physiological information in the opportunity of obtaining at measured intervals human pure chyle, produced by an otherwise perfectly healthy individual, the subject being fed during these intervals on measured diet of definite chemical composition in each instance. These investigations are being made under the supervision and at the direction of Dr. W. S. Hall and the results will at some future date be published in such form as to be available to all of us.

The boy, notwithstanding the constant loss of a large proportion of his ingested food is gradually gaining and the abdominal accumulation growing less, showing a tendency of Nature to heal the leak in his chyle duct or else, by collateral branches, to re-establish the absorbent economy.

From what casual information I have been able to obtain, I believe this is the first and only case recovered of chylous ascites, without contamination by other secretions or excretions or admixture with returning lymph from the rest of the animal economy or with the products of disease such as we get in carcinoma, chylous cysts and the like.

DISCUSSION ON THE CASE OF DR. MORGAN.

Dr. William T. Belfield:—About twenty years ago I saw, with the late Dr. J. M. Hutchinson, a case of chylous ascites in an adult following a blow on the abdomen. After it had persisted a number of months in spite of repeated tappings, an exploratory laparatomy was made. This afforded no information as to the local lesions, but was followed by the prompt and permanent cure of the ascites.

Dr. Victor J. Baccus:—I also remember one case of chylous ascites which occurred in the practice of the late Dr. Henrotin at the German Hospital. The woman was very fat, and she was tapped several times. A laparotomy disclosed sarcoma of the left ovary, with metastasis in mediastinum, with more ascites. The operation was of no benefit whatever. The woman died several months later without any diminution in the size of the abdomen.

Dr. Morgan (closing the discussion):—As a matter of physiological curiosity, I will say that the fat globules in this chyle are two thousand times smaller than the average fat globule of milk. It takes two thousand of these emulsified fat globules to make one of the average globules of fat in milk. So you can see how fine the emulsification is in the human economy.

DISCUSSION ON THE CASES OF DR. EMIL BECK.*

Dr. A. J. Ochsner:—Dr. Beck has given us a method which is certain to possess real practical value. In the first place, the fact that by this method we are able to know definitely the extent of the disease is of great value. There is a vast difference in the results following operations for these conditions, depending largely upon the thoroughness with which the operation is performed. A surgeon who has the thoroughness necessary to find all of the ramifications of the disease is bound to have a large proportion of successful cases. One who does not naturally go to the end of things has quite the opposite results. With this method, it is almost impossible, if the injection is carried out properly, for one to miss portions which he would be very likely to miss otherwise. The results we have seen here show that from a therapeutic standpoint the method is even of greater value. The first case that was shown alone would be convincing to me. All of the irrigation methods that have been used with the solutions containing the various silver salts or iodin or olive oil with turpentine and creosote, iodoform and ether, iodoform in olive oil or glycerin, have been very unsatisfactory. In fact many of those who have had the greatest opportunity of observing and treating these cases have come to the conclusion that hygienic and dietetic measures and rest by the use of plaster-of-Paris casts or splints are about the only forms of treatment that amount to much outside of operative treatment. But here we have an addition which I believe will do more than any other single thing in the treatment of these cases. There are several elements of value in this. In the first place, all the ramifications of these sinuses are reached by this substance, so that all of these portions are treated simultaneously, which, I believe, is a principle of importance. If one bears in mind the appearance of the skiagram in the first case, he will obtain the idea that every portion of the sinus is placed in the same favorable condition for healing. With any of the other forms of treatment one portion improves while another portion gets worse, so that the disease keeps on indefinitely. We have a second favorable condition, the condition of pressure. There is a certain amount of pressure exerted upon these tuberculous surfaces which we know is most favorable. Many years ago Professor John Cheyne of Edinburgh introduced an exceedingly satisfactory form of treatment in which he secured in all portions, especially in cases of sinuses through wrists and ankle joints, by means of rubber tubing or gauze, a uniform condition of pressure. The third advantage established by this method consists of drainage. We have a plug throughout these sinuses. The space between this plug and the inner surface of the sinus must form a most favorable surface for the expulsion of what serum may accumulate, and it is not likely to accumulate in any space because there is no space which is different from any other. The fourth benefit comes from the fact that these plugs have a tendency to stimulate the formation of healthy connective tissue, which will ultimately close these sinuses. The fifth advantage comes from the further fact that the plug establishes a condition of rest in these cases which is a very important point. This plug is virtually a splint. It places the tissues, the walls of these sinuses in a condition of rest. The case that was exhibited in the other room which had the most careful treatment from many of

* For text of Dr. Beck's paper see p. 402.

the most capable surgeons in the city for years without a satisfactory outcome was cured within a few weeks by this method. I shall certainly introduce this method at once, and I feel that this has been one of the most profitable demonstrations that I have ever witnessed.

Dr. Jacob Frank:—I have listened with a great deal of pleasure to the paper of Dr. Beck and have been also very much interested in the exhibition and demonstration of his cases. I have not had any personal experience with this new method, but any method that will aid us in bringing about a cure in cases of tubercular fistulæ is surely welcome. The healing of tubercular sinuses has been a nightmare to all surgeons, and everyone has had the experience spoken of by Dr. Beck, of cases going the rounds from one surgeon to the other, and of being operated upon. I am sure that we feel indebted—at least, I do—to Dr. Beck for demonstrating some of his very beautiful results.

He speaks about the framework from his injections in aiding the organization of the fistulous tract by blood vessels. That might be so, but still I have a theory to offer which I may not be able to carry out as I have not made the experiments. But if I am not mistaken, he uses in some of his injections a certain per cent. of iodoform or formaldehyd. It is my belief that the cavities that are injected keep up the action of the iodoform or formaldehyd on the tissues, and it has a bactericidal effect. This may or may not be true. I offer it simply as a theory, as the doctor does not know whether the fistula heals by blood vessel formation or not. The cases in which he had the best results were those in which there were sinuses or tubercular disease of the bone, especially caries. In necrosis of the bone it would necessitate an operation, first, to remove the sequestrum before injecting the doctor's emulsion; otherwise a cure could not be expected, so that it will not be entirely a method for itself without the aid of surgical procedure.

Another thing which strikes me is that in a fistulous tract it would be useless to inject it if it is not in a quiescent state; I mean by that if it is discharging pus freely. If the mouth of the fistula is very much inflamed, it would have to be brought to a quiescent state in order to get the good results from the injections.

There is one class of cases in which this method will not work at all, and that is, in fistulæ that occur from some secreting organ. It would seem almost impossible that any injection would cure a fistula that is produced from a secreting organ. If the secreting organ is entirely removed, it seems to me there ought not to be a fistula, especially in the cases that the doctor demonstrated upon the kidney. If that kidney had been entirely removed, or if there was no silk ligature left in the bottom, it would have healed without any injection. There must have been some kidney tissue left, or there must have been a ligature down to the bottom, and that particular case could have been cured without injections. For diagnostic purposes, it is decidedly a great step forward in surgery, and I think it has come to stay, and will be recognized in time all over the world, and will be written about in text-books. I think a Roentgenogram of a fistulous tract, especially an old one, should be taken to demonstrate to the surgeon what he is to do. I have had the same experience as the doctor spoke about of operating on a fistulous tract and not getting a cure. The result was no doubt because I did not clean out all the tracts. I left some. If we had a Roentgenogram to show us that we do not deal with a simple fistula, but with a complicated one, we would then get much better results by removing the thing in its entirety.

Again, I wish to thank the doctor for his admirable paper.

Dr. Edwin W. Ryerson:—I do not think the importance of this paper can be over estimated. If these beautiful dreams we have been listening to are true, and I do not think we can doubt that they are true, we are face to face with one of the greatest advances that have been made in the history of tuberculous joints, for of these alone will I speak. I will not present my opinions to the great undesirability of producing any fistulæ, any tuberculous sinuses in joints, because I have fixed notions about opening abscesses and draining them, and to mention these would not be in line with the paper of this evening. But granting that some generous surgeon had stuck a knife into a psoas abscess, has had it dressed for a few weeks, and has, as is always the case, gotten secondary infection introduced

into it, in a short time we have a difficult problem to deal with. The case is not open to operative interference. Tuberculous sinuses originating in the spine, whether in the lumbar or dorsal region, should not be cut down upon by anyone with any vague idea of eradicating all the diseased tissue, even in the lumbar Pott's disease, because we can not open up and remove all this diseased tissue. I have tried it a number of times, as have other surgeons, and all of us have failed. It can not be done. It is dangerous. It is entirely out of the question.

The Mosetig-Moorhof plug has not fulfilled our expectations. The conditions requisite for the use of this bone plug are difficult to obtain, at least in my hands, as the entire area must be opened up, the infected tissue removed, and the cavity perfectly dried out, so that there is no blood left in it, and the plug then put in. Any one who has been confronted with a case of osteomyelitis of the lower end of the femur of high degree knows how difficult it is to produce any dryness, to stop the oozing of blood. I have done a number of such operations and could not completely stop the bleeding. Therefore, portions of the Moorhof plug came out. Dr. Kerr spoke to me about the Moore modification of the plug which is simply iodin, olive oil, and spermacetti. I have used this plug by putting it up in the soft form into a number of cavities, after cleaning them out, and in several instances, much to my surprise, healing occurred. In several others the discharge kept up. Now, if such results as Dr. Beck's can be accomplished with such a harmless, inert substance, as I believe subnitrate of bismuth is, then it should be more generally used. It may be that some chemists can show how the bismuth may produce nitric acid on decomposition, but that is not the reason these sinuses or fistulæ heal. If we can use this substance, as Dr. Beck did, I believe, in some cases, without any formalin, we can not do the patient any harm. We are not subjecting him to any mutilating and dangerous operation, as many of the operations are. Many of these patients have died in whom attempts have been made to cure the sinuses they had. I think this method can be used by every one. The series of cases reported is large, and the results are very striking, and we can not doubt this testimony. We must not make the mistake, however, of thinking that these sinuses which result from tubercular joint disease are simply tuberculous. There are mixed infections of various kinds in them. That is why the opsonic tuberculin does not work; there are too many other germs in these cases besides tubercle bacilli. In a few cases the opsonic experts have attempted to make vaccines for all the different forms of bacteria in each case, but the results have not been striking.

So far as the diagnostic value of this method is concerned, I think I would rather have that omitted altogether. If a general surgeon is treating one of these cases and sees a lot of these sinuses, it fires him with zeal; it is an attractive proposition; but it may be attended with great danger. I do not favor that part of it. It is interesting to know the extent of disease which we can cure by this method, but it must not be held forth as a bait, to lure the surgeon to bite at a many-barbed hook.

Dr. Max Reichmann:—From the standpoint of the roentgenologist, I wish to congratulate Dr. Beck on the new way in which he has applied a rather well-known principle. We know that Rieder, in Munich, in the year 1904, was the first one who applied this bismuth emulsion, using a large percentage of bismuth in the stomach and getting beautiful pictures which enabled him to show the form and position of the stomach. Holtzknecht, of Vienna, used the same method for Roentgenoscopic purposes by viewing the stomach with the fluoroscope. Voelker and Lichtenberg published a method two years ago by which they injected a 5 per cent. solution of collargol into the bladder, following up the ureter and the pelvis of the kidney, and then roentgenographed those regions. But for the purpose of showing fistulæ, it was not done, and, of course, Dr. Beck deserves great credit for that.

The only thing I would call his attention to is that in injecting bismuth and taking a roentgenograph, he can not tell in a fistula, for instance, covering one of the long bones, from the roentgenogram, whether the fistula is behind or in front of the bone. It is necessary to take two views, a lateral view and an antero-

posterior view, or, better, to make stereoscopic pictures and to use the stereoscope. The latter method must be employed in all cases where the fistula is in the pelvis, the thorax, etc. I wonder if a paste made of collargol will not show the conditions much better, because collargol has greater atomic weight than bismuth; therefore, the shadow cast by the paste would be much clearer.

Dr. Henry B. Favill:—Never in my experience in this society have I heard a more valuable, suggestive, or promising subject produced than in this paper. It has been a great pleasure to me to be present and to have heard this admirable and valuable contribution.

Dr. Beck (closing the discussion):—With reference to the nice compliments that have been paid by the various discussers, I accept them with a great deal of pleasure, but I must say to you, however, that I am not the only one who has been instrumental in bringing forward this work. Dr. Ospray and my brother, Carl Beck, have been making suggestions and helping me in this work, and for which I desire to thank them.

With reference to the remarks made by Dr. Frank, that he thinks it is the iodoform and the formalin that close the fistulæ, I think they help, but I have not employed them except in the last few cases. In a case I had two years ago the fistula closed up after one injection. Consequently it is not the iodoform alone. I would also say with reference to a fistula from secreting organs, that if the fistula has originated from a kidney, this tubercular kidney naturally acts the same as a sequestrum does, and it should be removed. I do not agree with Dr. Frank that we can not fill up a fistula which contains pus. In a case of empyema one cupful of pus was discharged the first time I injected the cavity. When I injected the cavity it displaced the pus; the pus came out in such quantities that it spoiled my picture.

Dr. Ryerson has said that a psoas abscess should not be opened after it has formed. I can not agree with him entirely in regard to that. If there is an abscess and it causes fever, even at the risk of a fistula, we can open it up and cure it by this method.

I think it would be well for us, if possible, to try and get the cases in different parts of the city and those visiting the different clinics, treat them by this method, and then make a joint report on this subject at the Congress on Tuberculosis to be held in Washington. Then our results will receive a wider circulation, and the work can be carried on on a larger scale.

I do not think the criticism of the Moorhof plug is justifiable. I do not think we should discard the use of this plug. The plug is useful and valuable, and if one should now and then come out after it has been put in, another should be inserted.

I do not understand Dr. Ryerson's remarks about not trying this as a diagnostic method. The more surgeons know with regard to finding out what is the trouble, the better it is both for them and their patients.

Dr. Reichmann is absolutely right about taking stereoscopic pictures of these fistulous tracts, but I do not know how to do that. I believe a paste made out of collargol will show a clear picture, provided the percentage of collargol is sufficiently strong. The bladder has been injected with collargol solution, but the solution was too weak to show a very distinct outline. The question, however, would have to be settled, if collargol is absorbed same as bismuth.

Meeting of Jan. 22, 1908.

A regular meeting was held Jan. 22, 1908, with the president, Dr. Henry B. Favill, in the chair. The subject for discussion was a symposium on "Systemic Blastomycosis." Papers were read as follows: 1. Pulmonary Onset; Subsequent Development of Abscesses; Organisms Obtained from Blood Cultures; Autopsy Report, by Dr. H. R. Mock. 2. Ocular Onset; Pulmonary Manifestation Later, with Abscess Formation; Autopsy Report, by Dr. J. F. Churchill. 3. Pronounced Metastatic Lesions Secondary to Pulmonary Infection; Partial Recovery; Relapse, by Dr. H. Jackson. 4. Pulmonary Onset; Spinal Lesions Simulating Pott's Disease, with Partial Paralysis, by Dr. F. H. Boughton. 5. Systemic Infection Fol-

lowing Local Lesion; Autopsy; Special Report on Etiology and Pathology; Illustrated by Stereopticon, by Dr. A. M. Stober. The symposium was discussed by Drs. O. S. Ormsby, Howard T. Ricketts, Edwin W. Ryerson, and in closing by Dr. Stober. On motion of Dr. Keyes, a vote of thanks was extended to the essayists for their admirable contributions.

DISCUSSION OF THE SYMPOSIUM ON SYSTEMIC BLASTOMYCOSIS.

Dr. Oliver S. Ormsby:—I have been very much interested in this subject for a number of years and should like to express my appreciation to Dr. Stober and his co-workers, of their valuable contributions presented to-night. The work is of high order and very commendable from every standpoint, and if Dr. Stober can prove in the future that the organisms he has obtained from wood are pathogenic and capable of producing blastomycosis, it will be of great scientific value.

I should like to run over very briefly a few of the cases that have been previously reported, to call attention to the similarity and dissimilarity of these cases and those reported to-night, and point out some of their prominent features, as the papers this evening could not go into this part of the subject.

Last year, Dr. Montgomery and I prepared a paper on systemic blastomycosis and granuloma coccidioides, which was read September 14, before the International Dermatological Congress held in New York City. As many of our European colleagues are still skeptical concerning blastomycosis, we thought this would be a good occasion to bring the subject to their attention. At that time we were able to collect of reported and unreported cases twenty-three of systemic blastomycosis. In this list were four of the cases reported to-night, abstracts of which were kindly given us in advance by Dr. Stober. With the case brought forward by Dr. Boughton this evening, the total is now at least twenty-four. Of these twenty-four patients eighteen are dead and in all probability the nineteenth, as the patient recorded by Dr. Coley of New York some months ago has without doubt died before now; three have been cured; one has been lost sight of; the other is ill at the present time. The first recorded case of systemic blastomycosis occurred in Germany and was reported by Busse and Buschke. This case was practically blastomycotic pyemia and was reported in 1894. In 1895 Curtis reported the second case which was presented as having myxomatous tumors. It was found that some of these tumors were composed largely of the organisms of this disease and we may suppose that they were large abscesses. In both of these cases the organisms were similar to those now described in this disorder and both patients died.

In 1902 two cases were described in the literature, the first reported by Drs. Montgomery and Walker, which was interesting for the reason that generalized blastomycosis followed cutaneous blastomycosis of seven years' duration, and also from the fact that this case, clinically and at autopsy, was diagnosed as tuberculosis, later investigation proving, however, its correct position, while Gilchrist's case was one of only moderate infection and the patient recovered.

In 1903 a typical case was reported by Dr. Miller and myself, this case having occurred in the practice of Drs. Hyde and Montgomery. It was through the study of this patient's symptoms that we have since been able to recognize the disorder. In this case the trouble began in the chest. There was present cough with moderate expectoration, irregular temperature, emaciation, great loss of weight, marked prostration, and very large numbers of subcutaneous abscesses and nodules, and cutaneous ulcers; in fact, a typical picture of a well marked case. In this patient tuberculosis was positively ruled out by animal experiments and otherwise.

In 1904, a case was reported by Dr. Cleary from the County Hospital in which a diagnosis was made postmortem. The interesting features of this case were: The demonstration of blastomycetes in the myocardium and suprarenal capsules and the presence of extensive amyloid degeneration.

In 1905 another County Hospital case was reported by Dr. Eisendrath and myself. The new features of this case were the demonstration of blastomycetes in the sputum for the first time, the presence also of blastomycotic spondylitis and

the demonstration at the autopsy, by Drs. LeCount and Meyer of blastomycotic colitis and blastomycosis of the cerebellum. Later in this year Dr. Bassoe recorded a case in which bone lesions of great interest were demonstrated. This patient, in addition, had double psoas abscess and extensive amyloid degeneration.

In 1906 cases were reported by Drs. Irons and Graham and Drs. Hektoen and Christianson. The two cases of Drs. Hektoen and Christianson were interesting from the standpoint of acute onset in both instances. One of these late in the disorder showed tubercle bacilli in the sputum.

In 1907 Coley reported a typical case, under another name, however.

Dr. Herrick reported one of extreme interest. This patient was under the care of Dr. Garvey and the diagnosis of systemic blastomycosis was made by Dr. Hyde. In this case the patient had extensive blastomycotic pyemia. Some of the abscesses contained as much as a liter of pus. There was great emaciation and it appeared that the patient was doomed. After much treatment here she was advised to go and was taken to California, where she gave up medicine, embraced Christian Science, and recovered. On her return to Chicago I was astonished to see the patient in such good health, but I feel sure that she is now convinced that it was the change of climate with its attending benefits that did the good and not the new method of treatment.

In this same year Dr. Montgomery reported an interesting case in which the organism was markedly virulent. Animal experiments in this case were highly successful.

Concerning investigation to ascertain the source of the organism, I might say that as long as six years ago Dr. Hyde suspected that this organism might come from barns and manure piles, and accordingly he and his associates investigated several such places. Five years ago the apartments occupied by a systemic case above referred to were examined and it was found that although the patient's room was dry and the surroundings quite good there happened to be a manure box beneath the window. As we were not permitted by the person occupying the house (the patient having been sent to a sanitarium), to place tubes in the window, we visited the place about 10:30 one evening, inverted the tubes beneath the window, suspended them there over night, removing them at 5:30 the next morning. A large variety of molds were thus obtained and sent to Professor Coulter of the department of botany of the University of Chicago, and I show you to-night drawings of the organisms he forwarded to Dr. Hyde, which were very much like the organisms found in this case. However, as they were not found to be pathogenic, the subject was dropped. We have investigated many outside sources in a similar manner without success. I visited also the home of the patient recorded by Dr. Eisendrath and myself, in order to bring him back to the hospital for further investigation. His home was found to be unhygienic in the extreme.

In the case reported by Dr. Herrick, the social position of the patient was of the best, as were her home surroundings.

Taken as a whole, these cases resemble tuberculosis and syphilis. Of course, pyemia is suggested, but a number of these cases are really blastomycotic pyemia. It is only by taking the picture as a whole and carefully weighing all the circumstances that one can be reasonably sure as to the diagnosis. At the present time it is impossible to give a symptom complex which fits all cases. In some of the very severe cases the disease is likely to involve every organ and tissue of the body, consequently there will be groups of symptoms presented in these various organs. At present, however, it seems that the clinical symptoms as a rule are not proportionate to the marked findings at the autopsy. For instance, in certain cases, only moderate clinical findings referable to the lungs were noted while at autopsy marked destructive effects were found.

That these cases may closely resemble syphilis was emphasized within a few days when through the courtesy of Dr. Hyde I saw a generalized case of syphilis which was with difficulty differentiated from systemic blastomycosis. The subcutaneous nodules in syphilis, however, appear more indolent and do not contain the pus found in blastomycotic nodules. It appears that the gummatous lesions

contain rather products of degeneration than of suppuration, and a part of these lesions do not break down at all. The pus in the subcutaneous lesions of blastomycosis is often streaked with blood, as is also the sputum. This seems to be a characteristic of the disorder.

Cases of tuberculosis also resemble blastomycosis, but again, we have peculiar abscesses in the latter disease with their specific contents, which do not occur in the tubercular process, and tuberculosis is in all probability more indolent.

Concerning the onset of blastomycosis, it may be acute or slow. The onset was very rapid in the cases of Hektoen and Christianson. In some patients cutaneous blastomycosis precedes systemic infection, and in others the reverse conditions are found. In some generalized cases typical lesions of cutaneous blastomycosis were present while in others there was none. In fact, one patient had no cutaneous lesions. The absence of typical cutaneous blastomycosis does not negative the diagnosis, for the Wein lesions may or may not be present.

A few of the most marked and typical symptoms are the following: There is commonly emaciation, weakness with prostration and rapid loss of weight; the temperature is erratic, varying from 99 degrees to 103 degrees—in one patient it was subnormal, while under observation; the physical findings relative to the lungs are commonly moderate; cough occurs in a certain percentage of cases, and expectoration is usually more abundant than the cough seems to warrant. We have found at times large quantities of hemorrhagic sputum where there was very moderate cough. Hoarseness has occurred in some cases, due to involvement of the larynx with the disorder. Albumen and casts are occasionally found. Edema of the extremities and face has occurred, as has also diarrhea, and multiple arthritis. Adenopathy may be present; it is not, however, so characteristic as in coccidioidal granuloma occurring in the far west. Pain may or may not be present. It occurs in some to a marked degree. Some of the abscesses and ulcers are very tender. Night sweats occur in a certain proportion of cases, but with nothing like the regularity they do in tuberculosis. The patients were all more or less anemic, and in some leucocytosis occurred, but differential counts have been made only in recent cases.

The organisms of blastomycosis have been found in the blood, sputum, the urine, and fecal matter. They have been demonstrated by culture from the blood in two cases; in the first by Busse and Buschke, and in the second by Dr. Stober in one of his cases to-night. The organisms, however, have been seen by other observers in the blood vessels or organs examined after death. In the two cases in which they were found in the urine, both Dr. Stober's, they were due to the involvement of the prostatic gland.

Finally, to sum up in a word, if a given patient shows evidence of generalized infection which apparently resembles to a certain extent either syphilis or tuberculosis, but is not quite typical, especially if there is an irregular temperature, loss of weight, emaciation, associated with subcutaneous abscesses and nodules, and cutaneous ulcers, generalized blastomycosis should be strongly suspected.

Dr. H. T. Ricketts:—It is probably correct to consider that the organisms of systemic blastomycosis are the same as those of cutaneous blastomycosis. There are many examples in which primary systemic blastomycosis has resulted in cutaneous metastases; and, conversely, the primary cutaneous disease has also resulted in generalized infection.

The organisms which I have studied, for the most part, were obtained from cases of cutaneous blastomycosis, chiefly from dispensary and private cases of Drs. Hyde and Montgomery. I have observed several organisms from cases of systemic blastomycosis within the past two or three years, and have found that they correspond to one of the types cultivated from cases of the cutaneous disease. Several years ago, on the basis of a study of the literature and my own observations, I divided the organisms into three groups. The first was called the yeast-like, or blastomycetoid organism, the term being employed because of the general impression that the word blastomyces refers to an organism which proliferates only or chiefly by budding of the parent cells. Organisms of this type were obtained by Busse and by Curtis from cases of generalized infection, and

they called the disease saccharomycosis hominis. Similar organisms were obtained from cases of blastomycetic dermatitis by Hektoen, Hessler and by myself from an infection of the lip occurring in the practice of Dr. F. H. Montgomery. In so far as I know, it has not been found in systemic infections in this country. It grows with a soft pasty surface, and when first cultivated infiltrates the substratum of solid media. It may lose this property in time, growing almost exclusively on the surface, from which it is easily removed. It shows some variations, however, and in the course of time and on proper culture media may grow with a more or less folded surface and send short spikes into the air. When grown in liquid media it forms a granular precipitate which sinks to the bottom, leaving the overlying fluid clear. It ferments dextrose with the production of alcohol and carbon dioxid. It kills mice within a few days of inoculation.

The second type of organism was called oidium-like because of its marked disposition to grow in the form of segmented chains, the elements of which eventually separated, giving rise to new individuals which again formed chains and divided as before. This is the most striking characteristic of the members of the genus oidium, although they also reproduce by budding. Biologically it differed from the other strains studied in that it fermented glucose with the production of acetic acid. On solid media it penetrated the substratum, and the surface instead of being smooth and white was of a dirty appearance and greatly folded. Occasionally the appearance was that of a coil of tangled earth-worms, the strands often running parallel to each other. In bouillon a dense pellicle was formed on the surface.

The third type was called hyphomycetoid, because of its close resemblance to some of the hyphomycetes, and it is curious that nearly all the organisms recently cultivated from cases of blastomycetic dermatitis and systemic blastomycosis, belong to this type. This is the case with those demonstrated to-night. The most characteristic feature of this organism is its moldy surface, which first appears after some days of growth, and which may develop to such a degree that the whole interior of the culture tube is filled with it. It infiltrates the substratum intimately and produces no soft surface growth, under ordinary conditions. The aerial hyphæ sometimes produces lateral conidia in abundance, but this is more or less of an irregular feature, which may not endure permanently with any of them. It does not ferment any of the sugars which I have tried and it differs from the members of the first two groups in this respect. It is pathogenic to guinea-pigs, although comparatively large doses are required to produce generalized infection. For this purpose it may require as much as 0.2 gram of moist culture, the animals dying in from fourteen to forty days, when the injections are intraperitoneal. When the inoculations are subcutaneous, I have observed nothing more than localized abscesses.

This organism has several methods of proliferation. Budding occurs both in tissues and cultures; in cultures oidium-like chains are formed, and in addition lateral conidia are snared off from the chains which grow in the substratum, and are produced in the aerial hyphæ.

Hence, groups one, two and three form an ascending scale in regard to complexity, and it is apparent that a satisfactory classification presents difficulties. Since all of them have the power of forming oidium-like chains, and since oidia are known which produce aerial hyphæ, I came to the conclusion that the whole group found its generic place with the oidia, and that the individuals showed such differences as justified their separation into the three species mentioned.

One can hardly speak of systemic blastomycosis without considering also the coccidioidal granuloma of Ophüls and Moffitt, which was formerly considered as a protozoic disease. In a comparatively recent paper Dr. Hektoen brought out the essential differences between blastomycosis and coccidioidal granuloma. There is one decided difference between the organisms of the two diseases, in that the fungus of coccidioidal granuloma appears to proliferate in the tissues only by a process of endospore formation, whereas the fungi of blastomycosis proliferate in the tissues, largely, if not entirely, by the budding process. As to whether blastomycetes may in certain instances proliferate in the tissues by endospore

formation, is still somewhat of an open question. There is some reason for believing that this is the case, especially since LeCount and Myers found bodies resembling endospores in the cerebellum in a case of systemic blastomycosis. The question, however, needs further study.

A second difference concerns the pathologic anatomy of the two diseases, necrosis and caseation apparently being much more prominent in coccidioidal granuloma than in blastomycosis.

It is doubtful if the organism of coccidioidal granuloma is sufficiently independent in its characteristics to justify separating it from the groups involved in the production of blastomycosis. Endospore formation is certainly a distinctive feature, but it is not yet certain that "blastomycetes" may not also produce endospores under suitable conditions. Ophüls inclines to this view also, and applies to the organism of coccidioidal granuloma the name of *oidium coccidioides*.

The members of the Cook County Hospital staff who have been so keen in the discovery of these cases and in following them up deserve a great deal of credit for their work. The number of cases which they discovered in such a short time is nothing short of startling, and must excite again the oft repeated query as to whether we are evolving a new disease which is gaining an increasing number of victims, or whether we are simply learning to recognize a malady which has had a long existence.

Dr. Edwin W. Ryerson:—This case of blastomycosis which occurred in my service at the County Hospital, interested me very much. After this remarkable paper which we have heard to-night, it can hardly be thought that a man could see a case develop under his nose and not realize what was happening. But I had to be led up to each of these cases and to be shown that they were instances of blastomycosis. Although they had been under my care for many months, it never entered my head that blastomycosis, as studied and described by the dermatologist, but which did not have any particular bearing on orthopedic surgery, could produce such lesions.

A case which was reported by one interne started in the fibula. I think it was the third case, which seemed exactly like a typical acute tuberculous epiphysitis of the lower end of the fibula, with stiff knee on one side from a chronic, well-healed tuberculosis, and one or two skin lesions, which did not mean anything to me. It developed until these abscesses appeared subcutaneously and made the case a perfect picture.

The case with a pulmonary onset and spinal lesions simulating Pott's disease interested me very much. The man had had no cutaneous lesions whatever when he entered the hospital, and that was many months after he began to have cough and pains in his back. He was brought to my office shortly before his second entrance to the hospital, with typical Pott's disease in the high dorsal region. He had lung lesions which were sufficiently severe to be recognized, and he had unquestionably Pott's disease of the spine, so far as I could determine. As time went on in the Cook County Hospital, paraplegia developed, and he was put in the room which the first blastomycotic patient of my service had occupied, and in the course of time, a month or two, or, at least, three weeks after his admission to that room, his case was diagnosticated as one of blastomycosis. Whether this disease be contagious or not, I do not know. When I first saw him I can not recall his having had a single cutaneous lesion, but he had many of them before he died.

The Chicago Medical Society should be proud of its members who have correctly described so many cases and have suggested means of preventing any future cases. If Dr. Stober's theory be true—and it seems plausible—a coat of whitewash in all cellars where fungi or molds exist would prevent any further trouble.

Dr. Stober (closing the discussion):—The possible contagious character of this disease was not touched upon in my paper because nothing positive has as yet been determined. In the laboratory, during the study of the organisms, the bouillon cultures made from the blood were accidentally broken in the presence of myself and a visiting physician. The characteristic musty odor was very pro-

nounced and quite irritating, and although the nares and pharynx were immediately cleansed, a slight pharyngitis was felt the same evening. The physician mentioned reported the following afternoon that during the night he had been taken with chilly sensations, fever, and marked irritation of the pharynx and bronchi. The sputum was distinctly purulent, but no organisms could be found in it.

Impressed by the possibility of such an infection, examination, microscopic and with cultures, was made of the expectoration of seventeen individuals who were suffering from mild inflammatory conditions of the respiratory tract, and who directly or indirectly had come in contact with the case in the ward. In none of these were the blastomycetic organisms demonstrated. Further investigations of this subject are in progress.

Regular Meeting, Jan. 29, 1908.

A regular meeting was held Jan. 29, 1908, with the president, Dr. Henry B. Favill in the chair. Dr. J. Rawson Pennington described an Improved Technic for Ligation of Appendiceal Stump within the Cecum. Discussed by Drs. Robert T. Gillmore, Wm. Cuthbertson, and the discussion closed by Dr. Pennington. The next order was a symposium on syphilis. Papers were read as follows: 1. The Newer Investigations Regarding the Etiology of Syphilis, with Demonstrations, by Dr. F. Robert Zeit. 2. Remarks on the Diagnosis of Cutaneous Syphilis, with Lantern Slides, by Dr. Frank Edward Simpson. 3. Some Important Points in the Treatment of Syphilis, by Dr. Joseph Zeisler.* The symposium was discussed by Drs. M. Herzog, Wm. J. Butler, L. E. Schmidt, and in closing by Dr. Zeit.

DISCUSSION ON THE PAPER OF DR. PENNINGTON.

Dr. Robert T. Gillmore:—Dr. Pennington presented the same method or device about two or three weeks ago, and it was criticized on account of the difficulty of technic, and I do not object to it so much for that reason, but I do principally on account of its not being an aseptic technic. I do not think it is a good plan to introduce a needle within the cecum and run the chance of infection that must necessarily follow, especially by a long suture that must be handled and will necessarily soil the field of operation. It is a practical impossibility to utilize this without infection, and even though they were to invaginate the stump afterwards the danger would still be present. I think the methods of late that have been devised for closing the appendiceal stump are more to avoid entering the cecum—in other words, not to invaginate it or to put a tobacco pouch suture around the head of the cecum for fear of contamination by entering bowels with the needle and suture, but to tie it off, crushing the stump, and avoid introducing a needle within the cecum. The peritoneum will handle a limited amount of infection, but it is better to avoid a technic that will test its ability.

Dr. William Cuthbertson:—Dr. Pennington is to be congratulated upon having devised a very ingenious method of treating the stump of the appendix. I am sure you will pardon me if I criticise his operation somewhat adversely.

The things to be desired in an operation are, first, simplicity of instruments, and, second, ease of execution. The very complicated needle which Dr. Pennington has shown us this evening makes the surgeon add to his armamentarium. The difficulty with which Dr. Pennington threaded the needle in this somewhat uncertain light would serve to condemn it in the eyes of the general surgeon, because it not infrequently happens that an appendiceal operation has to be done in an emergency with the light of an oil lamp, or may be with the light of a candle, which would render it more difficult to thread the needle than in the light we have here.

The next objection which would occur to me is that which Dr. Gillmore has pointed out, namely, the puncturing of the lumen of the bowel by the needle. Anything which adds to the danger of infection in these operations makes the method undesirable. There are so many methods of treating the stump of the

* For text of Dr. Zeisler's paper see p. 411.

appendix, without puncturing the lumen of the bowel, that it is unnecessary to adopt any puncture method, to my mind. I am under the impression that Dr. Pennington was led to devise this operation on account of the number of cases of postoperative hemorrhage which have been reported following appendiceal operations. These postoperative hemorrhages have occurred almost without exception in cases where the stump of the appendix has been inverted into the cecum. In these cases of inversion, I believe it is not customary to put a ligature around the appendix itself, but the lumen of the appendix is enlarged by means of a forceps, and the stump turned right into the cecum, and then buried either by means of a purse-string suture or by Lembert sutures. The best method of treating the stump of the appendix is that in which the ligature is thrown around the base of that organ, thereby securing all blood vessels, and rendering the danger of postoperative hemorrhage *nil*. Finney's operation is one of the best of this kind in which the base of the appendix is first encircled by a ligature, then the appendix crushed with a hemostatic forceps, and this forceps worked up and down in order to expel the contents of the appendix into the cecum. Either a clamp or ligature is thrown around the appendix one-eighth of an inch or so away from the proximal ligature, and then the appendix is amputated. The stump is next sterilized thoroughly, or as thoroughly as possible, and invaginated either with a purse-string suture or by means of a Lembert suture.

It would seem to me, however, from the experience I have had in the treatment of the appendiceal stump, it is very important to remember thoroughly the blood supply of the appendix, as we know it may be supplied either by one, two or three arteries. It is a simple matter, before throwing a ligature around the base of the appendix, to examine the blood supply, see all the vessels we have to ligate, and then by means of a No. 1 dry heat catgut ligature effectually secure these vessels. It does not make much difference what steps are pursued afterwards in the amputation of the meso-appendix. After securing the blood vessels thoroughly by means of this ligature without crushing, but simply amputating the appendix close to the ligature, the interior of the stump can be thoroughly disinfected with pure carbolic acid and the material which is contained in the stump wiped out with a sponge saturated in alcohol; then a purse-string suture can be thrown around the stump at some distance from the appendix, and the stump invaginated into the caput coli. After the purse-string suture is tightened, one or two Lembert sutures can be introduced into the cecum and the stump and the ligature thoroughly buried out of sight. The material used to secure the blood vessels should be dry heat catgut that is absorbed in a very few days, and on account of the method of invagination of the stump, any material which may possibly have been retained there will empty itself into the cecum. By the adoption of this method operative hemorrhage is absolutely prevented; the danger of infection is reduced to a minimum, and to my mind it is the safest way of disposing of the stump of the appendix in these operations.

Dr. Pennington (closing the discussion):—With reference to the danger of infection, which has been referred to by both Dr. Gillmore and Dr. Cuthbertson, I will say that I have asked some of our leading surgeons here in Chicago concerning that point, and they have looked upon it as *nil*.

With reference to the method described by Dr. Cuthbertson, I am not familiar with it. I am not doing appendectomies. I devised this needle, when it occurred to me, and have presented it to you for what it is worth, whether that be much, little, or nothing, and it may be the means of suggesting something else that may be of great benefit. I simply show you the needle and how it is to be introduced, and it is certainly very simple. It is not complicated. It is an easy thing to do. In fact, anybody can ligate the appendix in the manner I have shown you.

DISCUSSION OF THE SYMPOSIUM ON SYPHILLIS.

Dr. M. Herzog:—About a year ago Dr. Schmidt and I presented at a joint meeting of the Surgical and Urological Societies a report on examinations of primary and secondary lesions for the presence of the *Spirochetæ pallida*. I then cited the opinion of some of the later German workers, that those absolutely

differential morphologic features which had been claimed for the *Spirochetæ pallida* in the earlier publications of Schaudinn and Hoffmann could not be upheld, but that, on the one hand, the *Spirochetæ pallida* varied a great deal, so that we do not always find a typical picture. And, on the other hand, we may be able to find spirochetæ in lesions not syphilitic which look very much like the *Spirochetæ pallida*. To illustrate that point, I presented a number of microphotographs which I am going to show again to-night. Dr. Zeit has practically done the same thing, only on a more elaborate scale. He has shown you a number of microphotographs and lantern slides demonstrating that very point.

The first question which ought to be discussed is, Can we find in primary and secondary syphilitic lesions spirochetæ which, on the whole, and perhaps in the majority of individuals answer to the description given by Schaudinn and Hoffmann? This question, I am prepared to answer with, Yes. We can find in the vast majority of cases of primary and secondary lesions, not, however, the tertiary lesions, such spirochetæ. I know there are men in this city who have been very much disappointed in searching for spirochetæ, and they have not been very successful. The most important element is not only a knowledge of the spirocheta, but proper staining methods, etc. There was a time when I could say I found spirochetæ in most cases of primary and secondary lesions of syphilis, that is, in August and September, 1906, when I practically did not do anything except to hunt for them all day, and it was a frequent thing for me to spend six and eight hours a day on a single case, and then I could find them. After September, 1906, when I could not devote as much time to the search for spirochetæ, I found them only in a moderate number of the cases examined. I remember a few cases of Dr. Corbus', which I examined recently, spending over three hours in each one of three cases, and I was able to find them only in one case.

Dr. Zeit also presented a case here to-night where he demonstrated spirochetæ in a case of gangrene of the lung, some of which are practically indistinguishable from the *Spirochetæ pallida*. One of my earliest experiences was along the same line. It was an obscure case which occurred in the service of Dr. Frank Johnson at the Michael Reese Hospital, in which there was a consolidated focus in one lung, attended with cough and expectoration. Sputum was sent down to the laboratory a number of times for examination for tubercle bacilli. The internes invariably reported being unable to find tubercle bacilli, and one day I took a look at the specimens myself and saw some spirochetæ which were stained faintly blue and which on being later stained with Giemsa showed in pink. Some of these I could not distinguish from *Spirochetæ pallida*. I thought the patient had possibly tertiary syphilis with a lot of spirochetæ in the sputum. Syphilitic infection, however, was denied, but syphilitic treatment was instituted and the spirochetæ did not speedily disappear. However, the patient got better finally and the spirochetæ disappeared more and more.

Since then I have seen two similar cases of obscure lung infection, with some consolidation, with a suspicion of tuberculosis, which could not be verified, with spirochetæ in the sputum, very fine, slender, corkscrew organisms, which could not be distinguished from *Spirochetæ pallida*. I have found spirochetæ of that type in the smears taken from the vagina of female children. We examine every female child which enters the Michael Reese Hospital for gonorrheal infection, in order to protect the patients in our wards from this infection, which has occurred in some of the hospitals in town in an epidemic form. I found in one of these examinations spirochetæ which were indistinguishable from pallida, but which, however, are not to be looked upon as pallida, because there was no cause for suggesting a luetic infection. I have also recently found them in the stomach and intestines. So I must take the standpoint that what has been described as *Spirochetæ pallida* has no such absolutely characteristic morphologic characters that one can be absolutely certain in differentiating it from other organisms of the spirocheta type. Who would to-day think of giving morphologically a clear distinction between typhoid, paratyphoid, colon bacilli, the high cholera bacillus, the bacillus of Shiga, the bacillus of Flexner, etc. We know they are so much alike that they can not with any degree of certainty be distinguished morphologically,

and it stands to reason to suppose that there must be spirochetæ which are so much like to pallida that they are indistinguishable morphologically. There are spirochetæ which can not be distinguished from *Spirochetæ pallida*.

As to the silver spirocheta, here we are confronted with other difficulties. We find in a number of cases, as has been pointed out by Dr. Zeit, of congenital lues an enormous number of spirochetæ. But the strange thing is, if those are the cause of syphilis, and perhaps they are, why is it we do not find them in these tissues, the histologic lesions so characteristic for syphilis? I have examined cases where we find large numbers in the liver and kidney, yet there are no characteristic histologic lesions of the disease; there is no trace of that infiltration which we find in acquired syphilis and which is so characteristic. When I saw, first, a case of congenital syphilis in a still-born child, in which there was a large number of these spirochetæ, I formed a hypothesis. I thought that these spirochetæ could not have multiplied in such enormous numbers in a living child, because if they had there should be some histologic expression of the damage done by this pathogenic micro-organisms. I supposed that the child had been dead *in utero* perhaps ten days or two weeks, and that its dead body formed a very excellent culture soil for the multiplication of the spirochetæ. However, the next case I examined was that of a child which lived one day. Its organs showed the most beautiful spirochetæ I ever saw, and my hypothesis was, of course, exploded. Then, again, I had a case which I thought would surely demonstrate favorably whether these spirochetæ are tissue elements or whether they are really foreign micro-organisms. A young man, who had secondary syphilis, married a young woman. He infected her, and she developed a primary sore on the tongue. After about six weeks there was a most violent outbreak of secondary skin lesions in her. She had uncontrollable vomiting, and after consultation with a number of physicians it was thought best to produce an abortion. This was done. As I was aware of the facts in the case, I procured the specimen at the bedside. It was at once dropped into a strong formalin solution—the placenta and the whole embryo—and I had a large number of serial sections made of the maternal and fetal portions of the placenta, but have been unable to find a single spirocheta.

With regard to observations made on animals, I will say that I was able to obtain material from the stockyards through the kindness of some of the government inspectors, such as a macerated sheep and a macerated hog embryo. A careful search was made for spirochetæ in the tissues of these animals, but the efforts were unsuccessful.

To summarize, again, as far as *Spirochetæ pallida* are concerned, they vary much in shape, they can be found in primary and secondary syphilitic lesions, but they have no absolutely diagnostic morphologic features.

It appears to me all that we can say to-day is that the etiologic relation of the spirocheta of Schaudinn and Hogmann, as found in primary and secondary syphilitic lesions, is not yet established beyond doubt and it is a question of great difficulty to decide the proper place in the etiology of congenital syphilis to the so-called silver spirocheta of Levaditti.

Dr. William J. Butler:—While we are still awaiting final proof of the *Spirochetæ pallida* as the cause of syphilis, we have in the serum diagnosis something definite, something positive, the value of which has passed beyond all doubt. The Wassermann reaction has placed syphilis within the category of serodiagnosis on as sound a footing as typhoid fever was placed by Gruber and Widal. Its worth has been confirmed by such eminent investigators as Levaditti, Morgenroth and others.

Subsequent work by Citron and by Fleishman and Butler has shown that the scope of this reaction extends beyond the field of diagnosis, that it is a valuable therapeutic index and prognostic aid. It revealed itself in the course of their work that the results of the reaction were greatly influenced by previous treatment and different methods of treatment. It was found that syphilitics who had been well treated, especially those who had been recently well treated, often failed to give a positive test. It was also observed that cases that had been vigorously

treated by immunitions often failed to give the reaction, whereas those treated by injections more frequently gave a positive result.

In our experience the test never fails where manifestations are present and is often found where they are absent.

It enables one to demonstrate active syphilis when manifestations are absent and has thus placed within our range the possibility of protecting the syphilitic patient from disease of the nervous and cardio-vascular systems, hepatic lues, etc., when to all outward appearance his infection is quiescent (note case of cerebral syphilis cited by Dr. Zeisler) and also to protect him from an imminent outbreak of his disease.

In the presence of questionable symptoms it admits of positive differentiation. It has clinched the association of syphilis with progressive paresis and tabes in that the antibodies can be demonstrated in the spinal fluid and serum of the vast majority of such cases. Their demonstration in the spinal fluid of paretics has suggested to Wassermann the possibility of their origin in an excessive antibody production on the part of the nervous system, leading to changes resulting in the clinical symptoms of progressive paresis. We have in this serum diagnosis of syphilis a positive test for syphilis and an invaluable index for specific treatment.

It is a well-recognized observation that those cases of syphilis that run a mild course and clear up early are often subsequently the subject of tabes or progressive paresis in contrast to cases of apparently greater severity that are as a result subjected to repeated courses of treatment. I say apparently severe, because it is not improbable in many of what might be termed mild cases the syphilis exhibits a selective action for the nervous system.

The recurrence of immune bodies should be watched for in the syphilitic instead of awaiting the development of evident manifestations or the later development of so-called parasyphilitic diseases, all of which might be obviated by the regular and methodical use of this method as an index of treatment.

In the brief time allotted for discussion I have avoided taking up the reaction itself, which is quite complicated, but will mention the principle on which it rests. It depends on the fact that when the antibodies in the body fluids of the syphilitic come in contact with their antigen a second substance contained in the fluids and known as complement is anchored. This anchoring of complement can be demonstrated by adding an inactivated hemolytic system. It is true the test is complicated and its performance consumes much time, but no labor is too great where the results are so valuable.

The chief difficulty in the matter is obtaining organs of dead syphilitic newborn at any time from the fourth month of fetal life on. The organs used are liver and spleen, which must be preserved in the fresh state on ice until used.

Dr. L. E. Schmidt:—If I understood the last speaker, Dr. Butler, he said that the so-called Wassermann serum diagnostic test is positive. I would like to say that Wassermann, before the Hygienic International Congress, held at Berlin, last September, stated it was not a positive test. All he claims is that it is probably the most reliable known test of this kind for syphilis at the present time. However, he does not want to be misunderstood in regard to its being known as a positive test for the presence or absence of syphilis. He advocates further investigations, such as Julius Citron, of Berlin, has published, in order to show the scientific accuracy and the clinical value of this test.

Dr. William J. Butler:—To correct a wrong impression I may have given, I will say that this test is positive in the sense that a Widal test for typhoid is. A negative Widal does not exclude typhoid, but a positive Widal enables us to say that the patient has or has had typhoid.

Dr. Zeit (closing the discussion):—In regard to the remarks made by Dr. Butler I wish to add that I appreciate very much his excellent work on the subject of serum diagnosis, but I must subscribe, however, to what Dr. Schmidt said, namely, that Wassermann never claimed that this could be used as a practical and positive test. It was simply an interesting laboratory fact that antibodies could be demonstrated; nor does the presence of these antibodies prove or disprove the *Spirochetæ pallida* as the etiologic factor of syphilis. I had not time to read that

part of my paper. I have given Dr. Butler credit for his work. There is no question that antibodies can be proven in cases of syphilis, in cases of progressive paralysis, and in cases of tabes, and, therefore, it needs further work to say whether this test can be applied in a practical manner. I have in my paper a few references which speak against it. Weil, of Vienna, reports that he gets positive reactions with tumor extracts, and there are other investigators who claim positive reactions with tissue extracts of non-syphilitics. We all realize the great difficulty of the test, and how exact everything must be done, and I believe it will take much further work to say whether, after all, Dr. Butler is not right, that it is a test which can be used for diagnosis.

In regard to the difficulty of finding the spirocheta that Dr. Herzog spoke of, I think it is well for us all to understand that we may not be able, even in a well-stained Giemsa smear specimen, after hours of examination, to find spirochetes during the daytime, in diffuse daylight. If we examine the specimen in the evening with a Welsbach light we find them without difficulty.

THE USE OF THE PHARMACOPEIA AND FORMULARY BY THE PHYSICIAN AND PHARMACIST.*

GEO. P. MILLS, PH.G., EVANSTON, ILL.

The lack of that respect to the physician and pharmacist which is due because of their higher education and the deplorable condition existing to-day in the practice of medicine and pharmacy are agitating some members of each profession throughout the country. The compensation they should receive, and the opportunity to live, to say nothing of existing, are agitating every member of both professions. Individual commercialism is blameable to some degree, but proprietary commercialism is the octopus which has hypnotized the physician into being its advertising agent, without pay, duped the public in that they believe its products to be the standards, and squeezed the life out of the pharmacists.

It will require the combined, earnest efforts of all interested to dislodge this "dog in the manger." The schooling obtained each day must come from a very much higher source, and not from the printed matter distributed so freely by this octopus, nor from an unsuccessful practitioner, the detail man, whose only attainment might well be described as "the parrot to his majesty the proprietor." The physician on the firing line, the pharmacist, the chemist and the pharmacologist at the magazine, must furnish the data. This information, whether relating to new or old remedies, should be compiled and distriouted at frequent intervals by a competent committee, not salaried by or interested in the commercial marketing of drugs.

The commercialism of this octopus is blameable to a great degree for the existence of that awfully funny joke, "just as good," that all too common expression, "up to date," which obliges the pharmacist to load his shelves with duplicates; that nasty word so often mentioned, "substitution," and, finally, that two-edged sword, dispensing by physicians versus counter prescribing by pharmacists.

It is a known fact that there are physicians and so-called doctors, as well as pharmacists and so-called druggists. What respect from the physician is due to a "druggist" who buys from the jobber paragoric, Syrup Hypophosphite Co. and a hundred such articles, not even knowing they are pharmacopeial or formulary preparations? Still worse, he may not possess a copy of either pharmacopeia or formulary. What about respect for the higher education of a "doctor" whose cases are diagnosed by the patient and whose prescriptions are mostly proprietary mixtures? Is it to be wondered at that the public no longer recognize a difference between the actual physician and the man called "doc," or the pharmacist and the so-called druggist?

Closer acquaintance in the medical or pharmaceutical body, or between medical and pharmaceutical men, means that each individual who considers himself a teacher finds he is being taught. The physician whose theory does not come in

* Read before the Evanston Branch of the Chicago Medical Society.

close association with the pharmacist's practical experience, or the theoretical pharmacist who does not profit by the practical experience of the physician, is necessarily biased and short-sighted. Such men retard progress.

The necessity of making money enough to pay expenses and prepare for a rainy day and old age must be conceded. Consideration of this side of the subject requires no apology. Quite often the physician prescribes "Blank's Mixture," requesting that it be dispensed in the form of a prescription, or, better still, for the octopus "one original bottle," so that the advertising matter is passed to the purchaser without cost and the pharmacist can not "substitute." While waiting for this prescription (?) to be compounded (?) the messenger or patient employs his time reading the label on a duplicate bottle. He "draws his own conclusions." He doubts the physician's knowledge and the pharmacist's ability, and determines that he is quite as competent to prescribe and compound patent medicines. He decides that in the future he will save the physician's fee and buy direct. When that future time arrives we find that he has recommended this "prescription" to all of his acquaintances and that they have purchased the article through some wholesale friend or at a department store. The physician and pharmacist not only lose the respect rightfully theirs for higher education, but they are obliged to say farewell to their living expenses, which they must have, even though they make no use of the higher education. Is the practice of to-day a credit to our teachers or our alma mater?

Physicians and pharmacists belong to one family and they *must be made contented* members. Undoubtedly the first step to take is to get together. The pompous man from the firing line fares poorly when he attempts to give orders to the man in the magazine who knows it all and *vice versa*. Positively nothing can be done so long as our case is in the divorce court. Working solidly together, with a determination to win, can not help but bring success.

A few examples from the pharmacist's standpoint may not be considered out of place.

Three or four years ago Dr. ——— "prescribed" antikamnia and codein tablets for Mrs. A's neuralgia. Since then she has purchased "25c worth of Ak. & C. Tablets" many times. Has there been proper professional control of this patient while using a remedy supposed to contain acetanilid or phenacetin? Where does the physician's responsibility begin and end?

At least ten years ago another physician prescribed trional. It seems that all of this patient's friends are poor sleepers, for trional has become a household word and "we always keep it in the house." Do the physicians realize that many times the pharmacist is charged with counter prescribing when these friends call for trional?

Only yesterday a stranger, while selecting cigars, said, "By the way, I want you to fill this prescription." The "prescription" proved to be "Tono Sumbul Cordial, Warner & Co.'s, one bottle," which the customer read and returned to his pocket. He then ordered one bottle and, of course, will read the label, which states, "Tono Sumbul Cordial is a superb tonic and heart stimulant, promotes appetite, rest and sleep. Most palatable and contains not more than 20 per cent. of alcohol. Take a tablespoonful undiluted before meals or occasionally." It is supposed he will now fully understand his case.

Here is where the physician does the advertising without pay and gets left all around.

In January of this year, when the National Food and Drugs Act went into effect, the formulas of the United States Pharmacopeia and National Formulary were made legal standards. This act has revived interest in medicine and pharmacology and furnished to us more guns and ammunition than we ever before possessed. If we fail to use these guns to good advantage we may not live to attend the funeral of the octopus.

The United States Pharmacopeia was first compiled by physicians about 1820 and is now revised every ten years by a committee composed of physicians, pharmacists, chemists and pharmacologists for the purpose of fixing standards for

strength, quality, etc., and giving directions for preparing medicines. No one doubts the wisdom of such work.

The National Formulary is intended as a stepping stone to the Pharmacopeia. The formulas are in very much the same position as the Methodist who is taken on probation. They may be probationers for some time, finally adopted and given their rightful place in the Pharmacopeia, or rejected.

The preparations of the Formulary are suggested by physicians' prescriptions and are intended to replace many of the proprietary preparations. By their use great confusion as to strength, dose, etc., is done away with. In comparing these preparations with proprietary articles it may be found that they are not flavored or colored so as to be exact duplicates. They are intended only as *standard, non-secret mixtures*, and it is to be hoped that they will be specified by every physician and manufactured by every pharmacist. There is no more necessity for a dozen preparations of Syr. Hypophosphite Co. than for a dozen paragorics, differing in color, strength and flavor. Most proprietary articles are simple mixtures, notwithstanding the gulling stories of "great discoveries," "wonderful manipulation" and "greater facilities" for manufacturing.

The Council on Pharmacy and Chemistry, as reported in *The Journal* of the American Medical Association, is doing a grand work in exposing the fictitious and deceptive nature of some of these preparations. Proprietary medicines produced by original and scientific research are of great benefit, but our laws should be revised so that only a deserving reward could be obtained for such production.

Take, for example, phenacetin and trional. There is surely something wrong when phenacetin, before the patent expired, wholesaled at $1.00 an ounce, but after the expiration of the patent the price dropped to 33 cents an ounce, while the official preparation, acetphenetidin (which is identical with phenacetin), can be purchased for $1.35 a pound. Trional, still benefiting from the patent laws, wholesales at $1.50 an ounce, while sulphonethylmethanum, the official preparation and identical with trional, wholesales at 45 cents an ounce. Then, again, the price of sulfonal at $1.35 an ounce can be compared with that of the official preparation, sulphonmethanum, at 38 cents an ounce.

Looking at another side of the subject, we find hosts of liquid antiseptics on the market. The physician supposes that the one he is perfectly familiar with can be obtained at any "up to date" pharmacy. This does not always follow. Do the physicians ever stop to consider the delay in delivery and the trouble and expense to which it may put the pharmacist in supplying this particular make? Has the physician considered it substituting when any one of the many *duplicates* has been dispensed? It is easy to conclude that the interests of the physician, pharmacist and patient will be best served if Liquor Antisepticus, U. S. P., is prescribed, dispensed and furnished to the man who pays the bill.

Physicians' charges should be in fact as well as in name for professional services. It is difficult for the layman to understand how the prescribing of patents, proprietary mixtures or tradename articles can be considered as such. It is absolutely impossible for a pharmacist to carry on business when he can make only merchandise charges for the services he renders. In explanation of this statement the following facts are given:

Many of the proprietary dollar articles are wholesaled at from 71 cents to 84 cents a package. The average cost of carrying on a drug business is 25 per cent. It will require but little figuring to find how these wonderful dollar money makers are squeezing the life out of the pharmacist. The 84-cent preparation actually costs $1.05, and if sold at one dollar there is a *loss* of 5 cents on the transaction. If a necessary charge of $1.25 is made, as is often the case, one can feel sure that he will be called robber.

It ill becomes us to find fault with the names hexamethylenamina, sulphonethylmethanum or sulphonmethanum. Why should it be considered more difficult to memorize these names than that of the old preparation, Liquor Arsenii et Hydrargyri Iodidi? It requires but little application to memorize such terms and there is no excuse for not doing so. The words are more than mere names. They really mean something to the intelligent man.

Referring to the use of the pharmacopeal and formulary preparations to replace proprietaries, the change must necessarily be accomplished by degrees. It will require some time for the pharmacist to find out which ones will be called for and to prepare for dispensing. It will probably require just as much time for the physician to become familiar with the subject. This matter of using standardized preparations has in a way been hurriedly forced upon us, and the plan followed in adopting revisions of the Pharmacopeia can be used. Generally there is no definite date when prescribing or manufacturing of the preparations of one revision can be stopped or the use of the following one commenced. The pharmacist may have on hand a quantity of some proprietary preparation. He should be expected to furnish the official as soon as his present supply is exhausted.

It is a pleasure at this time to read from an address given by George H. Simmons, M.D., General Secretary of the American Medical Association and editor of its journal.

"This is from a book written by Mr. Geo. P. Rowell, entitled 'Forty Years an Advertising Agent.' Mr. Rowell, as some of you may know, dabbled somewhat in the 'patent medicine' business himself. He is the one who created Ripans Tabules. In this book, by the way, he tells how he came to put this preparation on the market. In the chapter from which I shall quote he described the 'patent medicine' business in an interesting way, and tells of the fortunes that have been made and also lost. He has this to say about an 'ethical' proprietary that some of you may have heard about:

"'We had a successful advertiser in Halifax, N. S., who sold a medicine known as Fellows' Hypophosphites that proved so good that some shrewd business men in the medicine trade who knew about it bought the trademark, incorporated a company with a capital of $100,000, retained the original owner as manager, stopped all advertising except in medical journals, and thereafter pushed the sale only through the medical profession. I had information at one time of a young man who was heir to an uncle, recently deceased, and had come into possession of a certificate of stock of this company, of the face value of $6,000, and made up his mind that, shrewd as the old gentleman was, he had, without a doubt, acquired trash in this instance, and I heard, further, that the young man began to think better of the doubtful asset, when one day a dividend check came; and when, at the end of a year, he realized that within the twelvemonth that $6,000 certificate had brought him $9,000 in dividends, he began to revise his estimate of his deceased uncle's prescience in making investments.

"'As a 'patent medicine' it was not a success, but as an 'ethical proprietary' it has been proving a gold mine. So since that time this medicine has not been advertised except to doctors through medical journals, has it? Look at the wrapper around the bottle, read the label on the bottle, notice the name blown into the bottle, and then will you doubt the statement of the average druggist when he says that nine-tenths of Fellows' Hypophosphites is sold over the counter direct to the public and that the doctors are responsible? What better method of advertising? And how easy! Newspaper advertising is expensive! It is cheaper to use the doctor."

DELAYED MENOPAUSE—REPORT OF A CASE.*

CHARLES J. WHALEN, M.D., LL.B., CHICAGO, ILL.

It is generally accepted that menopause begins with the cessation of menstruation or marked menstrual irregularities, and ends with the termination of varied disturbances incident to this period. There is no fixed age for change of life any more than there is for puberty; however, all authors agree that with the great majority of women menopause commences at the age of 45 and averages from that up to 50 years. Many assert that the menopause is later with married than with single women. The late Sir Andrew Clark was of the opinion that the tendency of civilization was to make the climacteric later, and his vast experience

* Read before the North Shore Branch of the Chicago Medical Society, March 3, 1908.

among the higher classes makes his opinion on such a point important. Although 45 years is given as the average age at which menopause takes place there is a very great variation in regard to time. The cessation of menstruation has occurred as early as 21 and as late as 61 years of age, but such cases are exceptional and may be looked upon as curiosities.

The following case is therefore of interest:

Mrs. M. S., Irish, aged 67 years, 4 months; weighs 225 pounds; looks quite young in appearance for her age. Heart, kidneys and liver normal; arteries soft, no evidence of degeneration. She does not wear glasses, sews a great deal and has no difficulty in seeing; is not fatigued after using the eyes continuously all day. Has a good appetite; no aches or pains. Has worked very hard all her life; never had any help in raising her family; husband was sickly for twenty-six years before he died and was an additional care to her. Patient claims never to have been in bed two days in succession in her life, not even when her children were born. On two occasions went after her own midwife after labor pains had come on, frequently washed the day before confinement and often the day following. Has been in Chicago forty-eight years, and during that time has not taken one drop of medicine.

The patient was married at 16 years of age, has had thirteen children and two miscarriages; youngest child would be 28 years old if living at the time this history was taken. The oldest child is 50 years of age and has two married daughters. Patient has two great grandchildren. Seven of her children are still living; first and second are still alive; third died when four months old; fourth, fifth and sixth are still living; seventh died of phthisis at the age of 25 years; eighth died when a babe; ninth still living; tenth died of phthisis at the age of twenty-five years; eleventh and twelfth still living; thirteenth died when two months old. Patient was 14 years old when she first menstruated and continued to do so with regularity up to five years ago, when she began to menstruate regularly every three weeks and continued to do so up to the present.

The age of cessation of the monthly flow is often upset by many pathological conditions; while marked variation in time is not incompatible with health, it should be noticed that when there is marked deviation from the average age of 45 years there is always a possibility of some morbid state being present which is the cause of the deviation. In this case an examination of the uterus revealed nothing pathological, neither was there anything pathological to be found three and one-half years after the above history was taken.

The instance above reported being a deviation from the natural course, is interesting, as medical literature does not contain, so far as I can ascertain, a report of a similar case.

34 Washington Street.

SURGICAL DANGERS IN ICTERUS NEONATORUM.*

WILLIAM CUTHBERTSON, M.D., CHICAGO.

Associate in Gynecology Northwestern University Medical School. Gynecologist to St. Luke's Hospital.

(Abstract.)

For some years it has been well known that there is extreme danger in operating on patients suffering from disease of the liver or gall passages with an accompanying jaundice, on account of the liability to postoperative hemorrhage or oozing of blood which can not be controlled. This condition does not obtain in all cases of jaundice; therefore, the time of coagulation of the blood should always be estimated before submitting any jaundiced patient to operation. The cause of this blood deterioration does not seem to have been settled definitely.

The author quotes various authorities giving theories as to the cause of blood deterioration in jaundice and gives the following opinion:

So far as I am able to form an opinion I am inclined to agree with Rywosch, that the non-coagulability of the blood is due to the influence of some of the bile

* Read at the South Side Branch of the Chicago Medical Society, Dec. 19, 1907.

salts which are introduced into the circulation in excess. In the case which I report the blood had an abnormal appearance, being thin and apparently of lower specific gravity than normal, and illustrates the necessity of a careful examination of the blood in all cases of icterus neonatorum before submitting them to operation. I wish to report the following case:

Baby R. was born on Nov. 1, 1907. The family history was good, except that about eighteen months before his birth I performed a cholecystotomy on the mother for an infected gall bladder. She made a perfect recovery and was in good health at the time of her conception of this child. The labor was a protracted one, the pains persisting for 18 hours. As the mother was becoming somewhat exhausted and the head was low in the pelvis, I applied the forceps and delivered her without anything untoward happening to either the mother or the child.

When the baby was a few hours old, jaundice made its appearance over the body generally. The third day the nurse called my attention to the child's difficulty in urinating, and on examination I found a tight, contracted prepuce. I also noticed at this time that the two points of the baby's face where the forceps had made pressure were still discolored much more than is usual. I ordered plenty of water to be administered in the hope of increasing the amount and frequency of the urine. As this did not produce the desired result, on the fifth day I decided to do a circumcision to relieve the urinary obstruction.

As the prepuce was tightly adherent I introduced the blade of a scissors on its flat between the foreskin and the glans, and then turning the blade upwards I made an incision through the skin and mucous membrane extending back of the corona. After separating the prepuce from the glans with a grooved director I trimmed off the dog ears and introduced a few interrupted sutures and placed a strip of sterile gauze coated with vaselin around the raw surface, with orders to change it every time the gauze should become soiled with urine.

More or less oozing kept up during that day and night, but was not alarming. The next day, however, it became much more profuse, and adrenalin hydrochlorid was applied locally with the effect of checking the hemorrhage for a time only. That evening I was called up and told the child was bleeding profusely, so I discontinued trying local applications and introduced a continuous suture of No. 00 catgut. This by producing a mechanical ischemia checked the profuse bleeding and only left one or two oozing points which did not cause any trouble. In this connection I should say there was no hemorrhage from the cord. Where these sutures were applied the skin and mucous membrane assumed a bruised, blistered appearance, so much so that I feared gangrene. The third day after operation the jaundice began to disappear and all the tissues assumed a more healthy appearance, the oozing having stopped entirely.

At this time the coagulability of the blood was estimated and found to be two and one-half minutes. The child made an uneventful recovery, the ecchymotic spots on the face clearing up coincidently with the jaundice. This child did not develop any temperature either prior to or during the course of the jaundice. It would, therefore, seem that the condition of the blood was not due to any infective process, but rather to some faulty proportion of the bile salts as described by Rywosch.

In conclusion, I would urge the necessity of testing the coagulability of the blood before operating in all cases of icterus neonatorum, as well as other cases of jaundice. In children when making a puncture to secure some blood, only a very fine needle should be used, and the puncture sealed at once with collodion.

THE MEDICAL COLLEGE IN RELATION TO THE NOSTRUM EVIL.*

BERNARD FANTUS, M.D., CHICAGO.

I believe we all agree that the root of the nostrum evil lies in improper and insufficient training in pharmacy, materia medica and prescription-writing in the medical schools of this country. Hence this point needs no further discussion.

* Read before the West Side Branch of the Chicago Medical Society.

It may be profitable, however, to inquire why the instruction in these branches, so eminently important to practical medicine, should have become so poor. That it has not always been so deficient is proved, it seems to me, by the fact that this nostrum evil is of comparatively recent origin. Why, then, while medical instruction has improved in almost all other respects, has it retrogressed in regard to materia medica and therapeutics?

The answer to this question lies in the great recent development of the subject. Fifty years ago, only two divisions of the subject had to be taught, namely, materia medica and therapeutics. Since then the new science, pharmacology, or pharmacodynamics, has arisen, and has developed to such an extent that it has become equal in importance to the other two. A great number of new drugs has been introduced, increasing the bulk of material to be covered by probably one-half. Over and above all this, non-pharmacal therapeutics, including hydrotherapy, electrotherapeutics, massage, and gymnastics, dietetics and climatology have become of such importance as to demand almost as much instruction as the subject of medicinal therapeutics itself. And yet in many medical schools the time allotted to all these subjects has not been increased; and they have still to be taught under the old headings, "materia medica and therapeutics." It is self-evident that, under these circumstances, thoroughness of instruction became impossible. Especially is the new science of pharmacodynamics so fascinating that it draws the attention of both teacher and students almost completely away from the much less interesting study of the drugs themselves and of their prescribing.

Thus, class after class of improperly prepared students were turned out of the medical schools. They probably understood the mode of action of drugs better than did their predecessors, but they did not know how to prescribe them. At the same time they faced the modern demand for elegance in medication. No wonder that they fell an easy prey to the nostrum vendor.

It is plain, then, that in order to weed out the nostrum evil, its root must be attacked. I do believe that the old-fashioned teaching of materia medica should be resumed and carried on, in addition to the teaching of pharmacodynamics. That short courses in pharmacy should be instituted, not in order to make pharmacists of the medical student, but in order to enable him to understand prescription writing better. The time allotted to the whole subject should be at least doubled, and probably trebled; and the work of instruction in it should be carried on throughout the four years.

There is, at present, a gratifying tendency in this direction. For instance, the medical school that I have the honor of being connected with, has increased within the last few years, the number of hours at the command of the chair of materia medica and therapeutics from 135 lecture and no laboratory hours to 252 lecture and recitation hours and 108 laboratory hours. However, a great deal of work in this direction still remains to be done. I realize, of course, that the propaganda for reform of the nostrum evil must also be carried on along other lines, most of which have already been mentioned by the previous speakers. I may, however, be permitted to briefly summarize what seems to me the complete program of action in this campaign.

1. Better instruction of medical students in pharmacy, prescription-writing and materia medica.

2. Reform the teachers of surgery, medicine and the specialties so that they will not undo the good work started by the teacher of materia medica.

3. Monthly medico-pharmaceutic conferences for the discussion and demonstration of the best methods of administering important drugs.

4. Missionary work with nostrum prescribing doctors by means of circulars, pamphlets and personal interview. This part of the work could best be carried on by the druggists, as they know best who prescribes the nostrums.

5. Cordial support of the Council of Pharmacy and Chemistry by not prescribing anything that does not meet the sanction of this council.

6. Boycotting of journals that carry the advertisements of fake nostrum manufacturers.

7. Official publication of a physician's edition of the United States Pharmacopeia and of the National Formulary.

M'LEAN COUNTY.

The March meeting of the McLean County Medical Society was held in the Unitarian Church at 8 p. m. March 5, 1908. As this meeting was of a special nature, all business of the society was dispensed with. Dr. Dan Millikin, Professor of Medical Jurisprudence of Miami Medical College, addressed the society and the invited public on "The Extra Professional Services of the Physician."

Dr. Godfrey, in introducing Dr. Millikin, took occasion to mention the founding of the McLean County Medical Society in March, 1854, at which time Drs. Worrell, Noble, Crothers, Rogers, Roe, Hoover, Parke, Elder, Espey, Stipp, Christ, Cromwell, Luce, and Freese were present. Dr. Parke, of Louisville, Ky., is the only one now surviving. This is the 540th meeting of this society, counting 10 meetings per year. Dr. Godfrey referred to this society as being the safeguard of the health of the community. He advocated a city inspector to prevent the spread of disease from infected and stale meats as well as from inferior food of all kinds.

Dr. Millikin spoke in emulation of the work of the medical profession, wholly outside their professional duties, showing that in science, art, philosophy, religion, etc., the physician has taken front rank. "Since the dawn of history no body of men have done so much for the measureable good of mankind as the physician." Beginning with Aristotle, called by Dante "The Master of Them that Knew," who was of a line of physicians who for centuries were the schoolmasters in all sciences, to Nestorius, whose followers, driven eastward to the Euphrates, fraternized with Mohammedans and Jews and translated non-medical classics into Arabic and allied tongues and thus handed on the light of science. Coming out of the middle ages into the era of discovery, Fernel, physician to Henry II of France, advanced northward until the polar star changed its place 1 degree. He measured his journey and demonstrated the size and rotundity of the earth.

Copernicus gave one-third his time to medicine, one-third to astronomy and one-third to canonical duties. He taught, in 1543, the sun was stationary and the earth and planets revolve about it, thus overthrowing the Ptolemaic doctrines of astronomy. Galileo was five years a medical student. He taught that the scriptures are for salvation and not to teach science.

Dr. Millikin spoke of Steno as a geologist, especially his work on fossils, of Dr. Lister, and of Dr. Getard's porcelain work in France. Agassiz, Paré, Darwin, Owen, Leidy, Huxley, Linnaeus, Boerhaave, Galvani, Volta, Lamarck, Hunter, Wallaston, Hare, Oversted, Thomas Young, Carpenter, Helmholz, Liebig, Kane, Hayes, Nansen, Livingstone, Mungo Parke, and Emil Pasha were spoken of at some length, as well as Oliver Wolcott, Guillotin, Gattlin, Wood, Myer and others who take front rank among the great inventors, while Sir Thomas Browne, Oliver Goldsmith, Bedeous, Keats, John B. Brown, Dr. Holmes, Dr. Holland, Richard Grant White, Conan Doyle, and Weir Mitchell are conspicuous in literature.

Dr. Millikin closed his splendid address by saying: "When have all these debts been repaid? What first-class invention pertaining to our art has been perfected and turned over to the physicians? None. We have had to devise our sepsis and antisepsis. We devised our own hypodermic needles, our plaster dressings, our anesthetics. The debt to the physician for his services to the world outside of his immediate profession has never been paid."

F. H. GODFREY, President.
O. M. RHODES, Secretary.

PEORIA CITY.

ETHER AS A GENERAL ANESTHETIC WITH MORPHIN AND SCOPOLAMIN AS A PRELIMINARY.*

E. E. Barbour, M.D., Peoria, Ill.

Ether is perhaps more used to-day than all other preparations as a general anesthetic, and almost entirely by the open method. Many operators are using some preliminary to the general anesthetic; the most used, I think, is nitrous-oxid gas. Ethyl chlorid is used by some, atropin and morphin by others, and morphin and scopolamin by a few men. While I have used all except ethyl chlorid, I prefer the morphin-scopolamin and ether by the open method. While nitrous-oxid and ethyl chlorid have advantages in a safe, quick and complete anesthesia from one-half to one minute, yet when you change to ether you have secretions of the mouth and throat to contend with which have always been very annoying to the anesthetist. Morphin and atropin are much better in this respect as the atropin dries up the secretions, but it does not relieve the nervous condition, the effect does not last so long and it does not control postoperative vomiting as well as the scopolamin.

In my experience in 350 anesthesias, all ages and conditions, scopolamin has given me all of the above advantages with none of the disadvantages. It prevents nervousness, which was always an annoyance and hindrance; it shortens the stage of excitement, facilitates inhalation, diminishes the amount of anesthetic, eliminates the salivary secretions, prevents inhalation pneumonia, and by producing long sleep obviates the need of opiates for the postoperative pain.

I am indebted to Dr. Collins for the experience I have had with scopolamin and morphin. He began the use of this preparation in December, 1905. About the same time there appeared in the journals several unfavorable articles. One of these was by Dr. Wood in *American Medicine* for December, 1905, who reported the experience of several physicians who had unfavorable results. Those favoring its use at all did not favor ether as the general anesthetic, claiming chloroform the safer of the two. In spite of these adverse reports Dr. Collins continued to have it used in his work, giving 1/6 grain of morphin and 1/100 grain of scopolamin one hour before the time of operating and giving ether as a general anesthetic.

Some of the things essential in giving an anesthetic when morphin and scopolamin have been given, are: The patient's nose and throat should be sprayed with liquid albolene before taken to the operating room. This coats the mucous membrane of the air passages and reduces the danger of pneumonia. The patient, after taking scopolamin and morphin, should not be allowed to walk, but should be lifted from the bed to the stretcher and taken direct to the operating-room. The anesthetist and nurses should avoid all unnecessary talking. The patient's eyes should be covered with a piece of wet cotton, which is done for two reasons, to keep the ether out of the eyes and for the psychical effect. As soon as the anesthetic is started the nurses should commence the preparation of the patient by securing the hands to the side of the body or across the breast. The anesthetist should start giving the ether by holding the mask about three inches from the face and gradually lowering the mask until it is resting on the face, and when the anesthesia is complete, which is from five to ten minutes, the nurses should have the patient ready for the operator, a saving in time from fifteen to thirty minutes as compared to former methods of anesthetising patients in another room. Moving or handling patients should always be avoided after anesthetic is started.

As to the kind of mask, I have tried several kinds. Metal masks are not practical for the reason that the metal attracts the volume of ether which runs down on the face and does not vaporize and the mask is difficult to keep in position. A very good mask is the Ferguson as described in Squibb's Materia Medica, 1906 edition, page 322. The principal objection to this mask is that it is difficult to keep in position and hard to change the covering. I have the same objection to Ochsner's mask, which is used by the Mayos, that I have to the Ferguson, and so I use nothing else but the ordinary Esmarch inhalor, covering the same with

* Read before the Peoria City Medical Society, March 3, 1908.

four to eight thicknesses of course gauze. After the anesthetic is started, cover the face and sides of mask with an ordinary towel. For any operation about the head or throat we have found the Crile method very satisfactory as described by Dr. Julius McHenry in *Surgery, Gynecology and Obstetrics* for July, 1906, page 152. By this method the surgeon is enabled to work without interruption.

From our limited experience we have learned that an anesthetist, to be successful, has no time to talk or to watch the operation. His mind should be directed to the welfare of the patient that he may be prepared to meet any warning of danger. Among the most important of these are: The pulse at the facial or temple artery, breathing, color of the face, especially the lips and ears. I always keep the left ear uncovered. Not the least of all dangers is to keep the tongue from falling back.

While I do not claim that this method of giving anesthetics is an ideal one, as I believe there will be many improvements in this branch of medicine before the ideal is reached, yet I do believe that this is the most practical and the safest method for our patients that we have at our command at the present time.

SANGAMON COUNTY.

The February meeting of the Sangamon County Medical Society was held in the Lincoln Library the evening of Feb. 10, 1908, Dr. Bowcock presiding, with fourteen members in attendance. Drs. N. S. Penick, Springfield; F. D. Huber, Pleasant Plains; A. E. Walters, Springfield; F. M. Wilbur, Riverton; L. R. Johnson, Divernon; J. H. Hill, Mechanicsburg; A. C. Baxter, Springfield; O. J. Baldwin, Springfield, and O. P. Grant, Cantrall, were unanimously elected members of the society. The names of Drs. F. D. Fletcher, Chatham; E. H. Brittin, Auburn; E. L. Matthew, Divernon, and H. R. Riddle, Mechanicsburg, were proposed for membership and referred to the Board of Censors. Dr. E. E. Hagler read a paper on "The Faucial Tonsils," followed by discussion of subject. A committee was appointed to confer with the Mayor and city authorities concerning the city's water supply.

VERMILION COUNTY.

The Vermilion County Medical Society was called to order in St. Elizabeth's Hospital Monday evening, March 9, 1908. The regular order of business was suspended to take up the program. Program: The following cases were presented: Gunshot wound of orbit, Dr. Benj. Gleason; two surgical cases, Dr. J. M. Guy; a case of anemia, Drs. Dale and R. D. Cruikshank; a heart and kidney case, Dr. O. H. Christ; a heart case, Dr. F. W. Barton; a heart and kidney case, Dr. George Steely; a case of tabes dorsalis, with interesting trophic changes, Dr. H. F. Becker.

On resuming the business session the following names of applicants were read, all having been reported on favorably by the Board of Censors: R. L. Hatfield, H. E. Rowan and G. W. Poole, Danville; D. D. Webb, J. S. Adsit, A. M. Earl, J. B. Hazel, and J. A. Ingles, Hoopeston; S. R. Wilson, Rossville, and F. L. Liggett and M. Peterson, Rankin. A motion was made and seconded that the Secretary cast the ballot of the society electing these gentlemen to membership. Mr. Charles Webb, who has been working in the county in the interest of organization and harmony in the profession, gave a short address. Following the program the Sisters of the hospital served a dainty lunch, for which a vote of thanks was extended them by the society. After a discussion on the subject of advertising, Dr. Becker made a motion that the Chair appoint a committee to draft resolutions requesting the editors of papers in the county to not publish the names of physicians in connection with cases mentioned in the papers, and that these resolutions be in accordance with the ethics of the American Medical Association. Carried. A vote of thanks was extended to Mr. Webb for the part he took in the meeting toward making it a success.

E. E. CLARK, Secretary.

NEWS OF THE STATE.

PERSONAL.

Dr. Albert E. Froom, of Chicago, has moved to Mt. Rose, Colo.

Dr. and Mrs. Albert Well, Peoria, have returned from a trip to Cuba.

Dr. and Mrs. D. A. K. Steele, of Chicago, are traveling in California.

Dr. Arthur R. Adams, Macomb, expects to leave this month for Europe.

Dr. and Mrs. Jacob Frank, of Chicago, have returned from New Orleans.

Dr. and Mrs. Thomas E. Roberts, Oak Park, sailed for Europe, March 14.

Dr. Albert Green, Rockford, is confined to his house as a result of the fracture of a rib.

Dr. Alfred D. Kohn, of Chicago, has been reappointed a member of the Board of Education.

Dr. and Mrs. E. Fletcher Ingals, of Chicago, have returned from an extensive tour of Mexico.

Dr. Jacob Frank, of Chicago, has had conferred on him the insignia of the Red Cross of Japan.

Dr. Frank J. Dewey, of Chicago, was painfully injured in a collision between his bicycle and a street car March 8.

Dr. Charles W. Behm, chief of the disinfecting bureau of the Health Department, Chicago, is said to be seriously ill at Mercy Hospital.

Dr. Dudley Jackson has resigned the office of superintendent of Wesley Hospital and has resumed his practice at 70 State Street, Chicago.

NEWS ITEMS.

A new ward for the exclusive care of children was opened at the Chicago Baptist Hospital, February 22.

The stockholders of the Lake View Hospital, Chicago, have decided to dissolve the corporation, and a new corporation will be organized.

J. C. Dyer, 6509 Minerva avenue, charged with practicing without a license, is said to have been found guilty March 10 and fined $100.00 and costs.

Chicago has resumed enforcement of the anti-spitting ordinance. February 24 twenty-one men who had been arrested in the downtown districts for spitting on sidewalks and platforms were found guilty and fined $1.00 and costs each.

One of the officers and two clerks of a prominent firm of wholesale druggists have been arrested on complaint of the State Board of Pharmacy, charged with selling cocain without a physician's certificate or failure to keep a register of the cocain sold. The cases were continued.

The district council and city attorney have brought to light what they consider a conspiracy to defraud the city by bringing personal injury suits. They state that of six physicians in the Maxwell street district one has testified 23 times in such suits and has been interested in 17 other suits; another has testified 11 times, and has been interested in 11 similar suits; a third has testified 8 times and is interested in 10 other suits; a fourth has testified 13 times and has been interested in 11 suits; a fifth has testified 12 times and has been interested in 11 suits; a sixth has testified 16 times and is interested in 8 suits; a record which they think speaks for itself.

A fraud order was issued on February 12 by the Postoffice Department against the "Chicago Medical Institute." William Wood, secretary; "Dr. Dunn" George Gordon, secretary, and S. F. Francis, alias Dr. Dunn, with offices at Room 201, 130 Dearborn street. This institution is one of the many whose advertisements state that it never disappoints its patients, that it fulfills its promises, never holds out false hopes, cures varicocele in four days without pain, operation or ligature, cures prostatitis in ten to twenty days without cutting, dilating, etc. On decoy letters being written to the institute, reply was received that it would use internal medicines and also urethral suppositories for the cure of prostatitis, and requested that $10.00 be paid in advance. A fraud order was issued about two years ago against the firm of Francis & Francis, which, after being put out of business, induced Dr. Daniel Dunn to become a partner and carry on the business.

The following is announced as the recognized staff of St. Joseph's Hospital, Chicago: Chief of staff and surgical department, Dr. John B. Murphy; associate chief, Dr. C. Hugh McKenna; consulting staff, Drs. Charles Adams, George W. Reynolds, George P. Parsons, Ludwig H. Abele, Vaclav H. Podstata and Charles J. Whalen; attending surgeons, Drs. John B. Murphy, Carl Wagner, C. Hugh McKenna, and William N. Senn; associate surgeons, Drs. John P. Grimes, W. J. Swift, Arthur M. Butzow, and Henry Wagner; chief of medical department, Dr. Robert B. Preble; attending physicians, Drs. Plummer M. Woodworth, John W. O'Neill, Arthur A. Small, Thomas J. O'Malley, and Julian E. Hequembourg; chief of gynecologic department, Dr. Clarence W. Webster; attending gynecologist, Dr. William M. Thompson; associate gynecologists, Drs. William B. Fehring and Philip S. Doane; obstetrician, Dr. Frank W. Lynch; oculist, Dr. George W. Mahoney; associate oculist, Dr. P. J. H. Favill; nose and throat, Dr. Jacques Holinger and G. Paull Marquis; neurologist, Drs. Daniel R. Brower, Jr.; pediatrician, Dr. Philip S. Chancillor, and pathologist, Dr. David J. David.

COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION.

The following, published in *The Journal* of the American Medical Association, March 21, describes something of the personnel of the Council on Pharmacy and Chemistry of the American Medical Association.

This is of special interest to our readers because of the work that is being done by this council to rid our armamentarium of useless drugs.

"Dr. M. L. Harris, secretary of the Board of Trustees of the American Medical Association, sends the following for publication. At the meeting of the Board of Trustees, held at Atlantic City, June, 1907, the following by-laws relating to the Council on Pharmacy and Chemistry were adopted:

The Council on Pharmacy and Chemistry shall consist of fifteen members and shall be composed of physicians, pharmacologists, chemists and pharmacists. They shall be elected by the Board of Trustees on nomination by the Council in such a manner as shall be provided by the Board of Trustees. Members shall serve five years, and the term of office shall be so arranged that the terms of three members shall terminate each year. The Board of Trustees shall designate one member of the Council to act as chairman.

The functions of the Council shall be to examine into the composition, properties, action, etc., of proprietary and other articles offered to physicians or to the public as remedial agents, and to publish such information concerning the same as may be of value to the profession or as the judgment of the Council may dictate.

The Trustees shall appoint a chemist, who shall have charge of, and be chief of the chemical laboratory of the Association, and who shall be the secretary of the Council, and *ex-officio* a member thereof. His term of office and his salary shall be determined by the Board of Trustees.

At its meeting held in Chicago, Oct. 25, 1907, provision was made for arranging the time of expiration of the services of the present members of the Council. A resolution was also adopted asking the Council to nominate to the Board of Trustees twice as many persons as there would be vacancies on the 1st of March, 1908, "such nominations to be conducted in such a manner that the final votes shall be secret, and shall be opened in the presence of the Board of Trustees."

In accordance with the above resolution the Council submitted to the Board of Trustees eight candidates, and from these the board elected the following: Dr. J. A. Capps, Chicago; Dr. D. L. Edsall, Philadelphia; Prof. Otto Folin, Boston, and Dr. Robert A. Hatcher, New York (re-elected). The extra vacancy on the 1st of March necessitating the election of four instead of three members came from the fact that Professor Puckner had become the chief chemist of the Association, and, in accordance with the by-law adopted last June, became the secretary of the Council and *ex officio* a member thereof.

The Board of Trustees adopted a resolution directing the secretary of the board to express in writing its thanks to the retiring members.

PRESENT MEMBERS OF COUNCIL.

The following is a complete list of the Council as at present constituted, with the date of extirpation of terms:

C. S. N. Hallbery, Ph.G., M.D., Professor of Pharmacy, University of Illinois, School of Pharmacy, Chicago (March 1, 1909).

L. F. Kebler, M.D., Ph.C., Chief of Drug Laboratory, Department of Agriculture, Washington, D. C. (March 1, 1909).

J. O. Schlotterbeck, Ph.C., Ph.D., Professor of Pharmacognosy and Botany and Dean of the School of Pharmacy, University of Michigan, Ann Arbor, Mich. (March 1, 1909).

F. G. Novy, M.D., Sc.D., Professor of Bacteriology, University of Michigan, Ann Arbor, Mich. (March 1, 1910).

G. H. Simmons, M.D., LL.D., Editor of *The Journal* of the American Medical Association, Chicago (March 1, 1910).

H. W. Wiley, M.D., Ph.D., Chief of the Bureau of Chemistry, Department of Agriculture, Washington, D. C. (March 1, 1910).

Torald Sollmann, M.D., Professor of Pharmacology and Materia Medica, Medical Department, Western Reserve University, Cleveland, Ohio (March 1, 1911).

M. I. Wilbert, Ph.M., Apothecary at the German Hospital, Philadelphia (March 1, 1911).

Otto Folin, S.B., Ph.D., Professor of Biologic Chemistry, Harvard Medical School, Boston (March 1, 1911).

Reid Hunt, M.D., Chief of Division of Pharmacology, Public Health and Marine-Hospital Service, Washington, D. C. (March 1, 1912).

J. H. Long, M.S., M.D., Professor of Chemistry, Northwestern University Medical School, Chicago (March 1, 1912).

J. Stieglitz, Ph.D., Professor of Chemistry, University of Chicago (March 1, 1912).

R. A. Hatcher, Ph.G., M.D., Professor of Pharmacology, Carroll University Medical College, New York City (March 1, 1913).

J. A. Capps, A.M., M.D., Assistant Professor of Medicine, Rush Medical College, University of Chicago, Chicago (March 1, 1913).

David L. Edsall, A.B., M.D., Professor of Therapeutics and Pharmacology, Department of Medicine, University of Pennsylvania, Philadelphia (March 1, 1913).

W. A. Puckner, Ph.G., Chief of the Chemical Laboratory American Medical Association, Professor of Chemistry University of Illinois, School of Pharmacy, Chicago, member *ex officio*.

ASSOCIATE MEMBERS.

A. R. Cushney, A.M., M.D., Professor of Pharmacology, University of London, London, England.

H. Thoms, Ph.D., Director of the Pharmaceutical Institute, University of Berlin, Germany.

STAFF OF CLINICAL CONSULTANTS.

The Council on Pharmacy and Chemistry presented to the Board of Trustees, at its meeting in February, 1908, a request for an appointment of a body of clinicians to whom could be referred questions relating to therapeutics. In its communication to the Board the Council stated that in the course of its work the subcommittees had frequently encountered questions, a solution of which required the experience and opinions of clinical therapeutists. The suggestion of the Council was agreed to and the following were elected as staff of clinical consultants:

Lewellys F. Barker, M.D., Professor of Medicine, Medical Department of the Johns Hopkins University, Baltimore.

H. A. Christian, M.D., Assistant Professor of Theory and Practice of Physic, Harvard Medical School, Boston.

LeRoy Crummer, M.S., M.D., Professor of Medicine and Clinical Medicine, John A. Creighton Medical College, Physician to St. Joseph's Hospital, Omaha.

George Dock, A.M., M.D., Sc.D., Professor of Theory and Practice of Medicine and Clinical Medicine, University of Michigan, Department of Medicine and Surgery, Ann Arbor, Mich.

George E. de Schweinitz, M.D., Professor of Ophthalmology, Department of Medicine, University of Pennsylvania, Philadelphia.

John T. Halsey, M.D., Professor of Materia Medica, Therapeutics and Clinical Medicine, Medical Department (undergraduate), Tulane University of Louisiana, New Orleans.

C. F. Hoover, A.B., M.D., Professor of Physical Diagnosis, Medical College, Western Reserve University, Cleveland, Ohio.

Alexander H. Lambert, A.B., Ph.B., M.D., Professor of Clinical Medicine, Physician to Bellevue Hospital, Cornell University Medical College, New York City.

J. L. Miller, M.D., Assistant Professor of Medicine, Rush Medical College, University of Chicago, Chicago.

H. C. Moffitt, B.S., M.D., Professor of Principles and Practice of Medicine, University of California, Medical Department, San Francisco.

A. T. McCormack, M.D., M.A., Secretary Kentucky State Medical Association, Bowling Green, Ky.

Alfred Stengel, M.D., Professor of Clinical Medicine, Department of Medicine, University of Pennsylvania, Philadelphia.

Charles G. Stockton, M.D., Professor of Principles and Practice of Medicine and Clinical Medicine, Medical Department, University of Buffalo, Buffalo.

J. A. Witherspoon, M.D., Professor of Practice of Medicine and Clinical Medicine, Medical Department, Vanderbilt University, Nashville, Tenn.

A. S. Taussig, M.D., Lecturer on Medicine, the Denver and Gross College of Medicine, Medical Department of the University of Denver, Denver.

Dr. J. R. Webster, of Monmouth, celebrated the fiftieth anniversary of his medical practice, Feb. 19, 1908, at his residence in that city. The affair was a complete success from a social standpoint, as well as a fitting tribute to the character and achievements of this remarkable man who, though advanced in years, is still young in spirit and keen in intellect. After an elaborate dinner had been served, Dr. Ralph W. Webster, of Chicago, his son, arose and in a few brief words told of the significance of the event and called on his father for a talk. Dr. J. R. Webster then gave a sketch of his own life, developing the fact that he was born in Penn Hill Township, Lancaster County, Pennsylvania, July 18, 1835, a son of Samuel and Doborah (Kirk) Webster, both natives of Lancaster County and of Scotch ancestry. Dr. Samuel Webster graduated

from Jefferson Medical College, Philadelphia, 1837, and started for the west, intending to locate in St. Louis. As he passed through Monmouth he was taken sick, and when he recovered the few families living in that neighborhood demanded his services and he decided to stay. Monmouth has been the family home for seventy-one years. Dr. John R. Webster succeeded his father, after graduating at Rush in 1850 and at Jefferson in 1864. He was commissioned assistant surgeon of the Eighty-third Illinois Volunteer Infantry, but owing to illness never left the state. Twenty-three men and two women have studied medicine under him as follows: Dr. C. C. Higgins, of Chicago; Dr. Charles Little, of Oswego; Dr. James A. Grier, of Bellevue, Pa.; Dr. Alonzo Randall, of Kirkwood; Dr. Emory Morris, of Galesburg; Dr. William Winbingler, of Harper, Kan.; Dr. S. H. McCleary, of Los Angeles, Cal.; Dr. N. Hornbeck, of Youngstown; Dr. W. A. Stoecks, of Davenport, Iowa; Dr. William Horne, of Mt. Ayr, Iowa; Dr. Charles McMichael, of Cleveland, Ohio; Dr. J. M. McCutcheon, of Alexis; Dr. Blair, Dr. Robinson, Dr. Mitchell, Dr. Archer Small, deceased; Dr. Hugh Graham, deceased; Dr. Hunter, Dr. George Boone, deceased; Miss Kate Cunningham, deceased; Dr. Cora Smith, Dr. J. C. Kilgore, deceased; Dr. E. L. Mitchell, Dr. W. S. Holliday, of Monmouth. Dr. C. A. Skinner, on behalf of the physicians of Monmouth, presented him with a beautiful solid silver loving cup. Dr. D. W. Graham, of Chicago, representing physicians of that city, gave a short talk and presented Dr. Webster with a handsome gold-headed cane, inscribed "Greetings and congratulations from Chicago friends." Other addresses were made by Dr. Emma Standley, of Alexis; Dr. W. E. Taylor, of Watertown; Dr. H. B. Young, of Burlington; Dr. George E. Luster, of Galesburg, and Dr. J. M. McCutcheon, of Alexis. Other gifts of a handsome character were made. Dr. Webster has been a society member all his life, and is now a member of the American Medical Association, the Illinois State Medical Society, ex-president of the Military Tract Medical Association, and of the local physicians' club. His many friends extend congratulations and wish for many years of continued health and happiness.

SMITHSONIAN INSTITUTION.

HODGKINS FUND PRIZE.

In October, 1891, Thomas George Hodgkins, Esquire, of Setauket, New York, made a donation to the Smithsonian Institution, the income from a part of which was to be devoted to "the increase and diffusion of more exact knowledge in regard to the nature and properties of atmospheric air in connection with the welfare of man." In furtherance of the doctor's wishes, the Smithsonian Institution has from time to time offered prizes, awarded medals, made grants for investigations, and issued publications.

In connection with the approaching International Congress on Tuberculosis, which will be held in Washington, Sept. 21 to Oct. 12, 1908, a prize of $1,500 is offered for the best treatise "On the Relation of At-

mospheric Air to Tuberculosis." Memoirs having relation to the cause, spread, prevention or cure of tuberculosis are included within the general terms of the subject.

Any memoir read before the International Congress on Tuberculosis, or sent to the Smithsonian Institution or to the Secretary-General of the Congress before its close, namely, Oct. 12, 1908, will be considered in the competition.

The memoirs may be written in English, French, German, Spanish or Italian. They should be submitted either in manuscript or typewritten copy, or if in type, printed as manuscript. If written in German, they should be in Latin script. They will be examined and the prize awarded by a committee appointed by the secretary of the Smithsonian Institution in conjunction with the officers of the International Congress on Tuberculosis.

Such memoirs must not have been published prior to the Congress. The Smithsonian Institution reserves the right to publish the treatise to which the prize is awarded.

No condition as to the length of the treatises is established, it being expected that the practical results of important investigations will be set forth as convincingly and tersely as the subject will permit.

The right is reserved to award no prize if in the judgment of the committee no contribution is offered of sufficient merit to warrant such action.

Memoirs designed for consideration should be addressed to either "The Smithsonian Institution, Washington, D. C., U. S. A.," or to "Dr. John S. Fulton, Secretary-General of the International Congress on Tuberculosis, 714 Colorado Building, Washington, D. C., U. S. A." Further information, if desired by persons intending to become competitors, will be furnished on application.

CHARLES D. WALCOTT, Secretary of the Smithsonian Institution.
Washington, D. C., Feb. 3, 1908.

SOCIETY NOTES.

Dr. J. P. Bulkley delivered a public lecture in the Public Library Building Saturday, March 21, 1908. Subject, "Function of the Teeth and Their Relation to General Health."

Dr. J. H. Wesner delivered a public lecture at the Chicago Public Library Building Saturday evening, March 14, 1908. The subject, "How to Solve the Problem of Pure Milk for Our Cities."

The Cass County Medical Society gave a banquet on the evening of February 12th at the Carnegie Library Building in Beardstown. An elaborate banquet was served and toasts were given. Papers were read by Dr. George N. Kreider and Dr. L. C. Taylor, of Springfield. Guests were in attendance from Lacon, Jacksonville and Havana.

Resolutions regarding the death of the late Nicholas Senn were

passed at the last meeting of the Chicago Gynecological Society, February 21, setting forth the indebtedness of the society and its members to the late Dr. Senn, acknowledging their obligations to him, and expressing their loss in his death.

The Council of the Chicago Medical Society, at a recent meeting, authorized the organization of a new branch society to be known as the Calumet District No. 14, with the following boundaries: Ninety-fifth Street on the north, Collis Avenue on the east, the city limits on the south and on the west, the boundary line to be Halsted Street to Ninety-fifth, to One Hundred and Eleventh and the Grand Trunk Railroad from the corner of Halsted and One Hundred and Eleventh to the city limits.

A joint dinner and meeting of the Physicians' Club with the Chicago Medical Society was held at the Great Northern Hotel, Friday evening, March 13, 1908, at 6:30 o'clock. Chairman for the evening, Dr. Henry Favill; subject, "The True Situation in Regard to the Administration of the State Institutions."

1. What the State Board of Charities is Accomplishing; Hon. Wm. C. Graves, Springfield.

2. Where and How Can Matters Be Improved; Hon. Cicero J. Lindley, Greenville, Ill., member Appropriation Committee.

3. The Medical Administration of the State Charitable Institutions; Dr. Frank P. Norbury, M.D., Jacksonville, ex-president State Conference of Charities.

4. What the Civil Service Commission Is Accomplishing; Hon. Wm. B. Moulton, Chicago, President Illinois Civil Service Commission.

5. Where the Fault Lies; Dr. Richard Dewey, Wauwatosa, Wis., ex-superintendent Kankakee Insane Asylum.

6. Discussion; Dr. J. W. Pettit, Ottawa, Ill., ex-president Board of Trustees Illinois Charitable Eye and Ear Infirmary; Miss Julia C. Lathrop, Rockford, philanthropist and member State Board of Charities.

All speakers on the above program were present, with the exception of Hon. Cicero J. Lindley and Miss Lathrop. It was a matter of regret that Mr. Lindley could not be present and contribute to the most excellent program given. Never in the history of the Physicians' Club has there been such an interesting and important meeting. As announced in other previous notes, the truth regarding the situation was told. No more important subject is before the people of the State of Illinois than the proper scientific, hygienic and economic management of its state institutions. The facts should be laid bare before all of the people. There is no better means of bringing the truth regarding these state institutions to the people than through the regular family physicians. When the true status is thoroughly appreciated the people of the State of Illinois can be trusted to correct all existing evils. At the conclusion of the program the following resolution was introduced by Dr. J. M. Dodson and unanimously adopted:

Resolved, That the attendance upon the meeting of the Physicians' Club of Chicago and the Chicago Medical Society indorse heartily the splendid work of

the present Illinois Board of Charities and Corrections. We herewith express our perfect confidence in the board and pledge our earnest and enthusiastic support to the efforts it is making to correct the evil conditions which may exist in the charitable and penal institutions of the state.

PUBLIC HEALTH.

Diphtheria is still present in Whitehall.

Two new cases of smallpox have developed in Bartonville.

At Harlem Center twenty cases of smallpox of mild type are reported.

Smallpox is reported from Astoria, Loami, Lacon, Chandlerville and Melvin.

The public schools of Rantoul are to remain closed for a week on account of prevalence of scarlet fever.

The state Board of Health has received word that four additional cases of smallpox have appeared in Auburn.

There are said to be fifteen well-developed cases of smallpox at Robinson, and a quarantine has been established.

As a result of scarlet fever at Chenoa, all public meetings have been forbidden and schools and churches have been closed.

The health department of Chicago discovered four cases of scarlet fever among the inmates of the John Worthy School February 18.

The Waukegan Board of Health has procured 4,000 vaccine points from the State Board of Health and general vaccination is ordered.

An epidemic of diphtheria is threatened at the Illinois Central Hospital for the Insane, Jacksonville, where three cases have occurred, with one death.

Dr. Elvin F. Baker, Jacksonville, inspector of the State Board of Health, has passed on the epidemic disease, which is said to have been puzzling the practitioners of Lacon, and pronounces it smallpox.

At a meeting of the health officers and the authorities of the University of Illinois, in Champaign, Ill., it was agreed that the local boards carry out the instructions of the State Board of Health regarding vaccination.

The epidemic of smallpox which has been prevalent in over thirty counties of the state is reported as abating, and the health authorities have the situation well in hand. Many towns have had quarantine lifted and public gatherings are again permitted.

At a meeting of the Suburban Health League, held in Indiana Harbor, Ind., March 2, plans were devised to stop the spread of contagious diseases. Physicians throughout the Calumet region will act in unison in reporting such cases to the league. The following officers were elected: President, Dr. William Parkes, Evanston; vice-president, Dr. Albert F. Storke, Oak Park; secretary-treasurer, Dr. Herman Spaulding, Chicago; executive committee, Drs. William A. Evans, Chicago; Samuel C. McCracken, Winnetka; Aaron J. Lauer, Whiting, Ind.; Clarence W. Geyer, Aurora, and Albert F. Storke, Oak Park.

The disaster which occurred recently in the suburban town of Cleveland, Ohio, where nearly 200 children were burned to death in a

school house, has aroused the state health authorities to a rigorous inspection of schools and churches. Many needed improvements have been advised and made. It is to be regretted that such disasters are necessary in order to arouse the authorities to a recognition of the conditions of buildings which constantly menace the safety of the people. We recall the awful disaster of the Iroquois Theater fire a few years ago in Chicago, which became a stimulus to the city and state officials and inspectors to insist on a full compliance with the law in the construction of theaters. Warnings have been issued by unbiased inspectors regarding the sanitary conditions and lack of fire protection at some of our charitable institutions. It is to be hoped that these warnings and statement of facts will not have fallen on stony ground, but that those in whose charge the care of these institutions is have already made the necessary changes to avert a disaster. A timely warning when heeded may save scores of lives and untold anguish and grief.

The conference at Indiana Harbor, recently held for discussion of the typhoid situation, received reports from Chicago, Michigan City, Gary, Hammond, Whiting, East Chicago and Indiana Harbor, and adopted the following resolutions, indicating the sense of the meeting: First, that the sewage from the district south of Eighty-seventh Street must not be allowed to go into Lake Michigan; second, that the people of Whiting, Indiana Harbor, West Chicago and Hammond must (a) boil their water, (b) go further into the lake with their intakes, (c) keep their sewage out of the lake; third, that the people of Michigan City must (a) boil their water, (b) stop pumping Trail Creek sewage through their water pipes when ice gets in the lake intake, (c) build a standpipe or use blowpipe to clear ice from intake, (d) go further into the lake with their intakes, (e) keep their sewage out of Lake Michigan; fourth, that the people of Gary must (a) boil their water from their wells, (b) heat their milk, (c) cook their vegetables and fruit, (d) eat nothing raw, (e) screen against flies, (f) either use the dry earth system for their yard privies or (g) build cement vaults; fifth, that no yard privies should be allowed where the density of population is greater than ten to the acre; sixth, that where there are yard privies they should be of either the dry earth type or else of cement, waterproof construction.

The *Bulletin* of the Chicago Health Department gives the following report on the health of the community during February: "The month of February usually furnishes the highest death rate of any month of the year. It has averaged the highest during the past ten years. February, 1908, is an exception to the rule. It passes into the record with a death rate considerably below the decennial average and much lower than the preceding month. Only three times has the February rate been lower in the last ten years, and in the last fifty years in but fourteen instances. The 2,744 deaths reported during the month are fewer by 352 than the preceding month and are 229 below the returns of the corresponding month of last year. As compared with February a year ago, there were fewer deaths from the following important causes: scarlet fever, 101 fewer; pneumonia, 94 fewer; consumption, 51 fewer; vio-

lence, including suicide, 33 fewer; typhoid fever, 13 fewer; measles, 16 fewer; whooping cough, 18 fewer; diphtheria, 5 fewer, and convulsions 29 fewer. There was an increased mortality from the following causes, as compared with last year: influenza, 81 more; diarrheal disease, 52 more; cancer, 19 more; heart disease, 8 more. Compared with January, there was a considerable improvement in the contagious disease situation, 25 fewer deaths from the acute contagious diseases of childhood; a marked reduction in the pneumonia mortality, where an increase had been expected, 517 as against 570, a reduction of 53 in February; a most satisfactory falling off in the typhoid mortality, 19 fewer deaths; and a heavy decline in the influenza and consumption mortality, decreases of 75 and 43 respectively. In addition there were 20 fewer cancer deaths, 22 fewer from the nervous diseases, 11 fewer from bronchitis, 11 fewer suicides, 10 fewer from diseases of the heart, 9 fewer from convulsions, and a reduction of 7 from Bright's disease. The acute intestinal diseases, measles, whooping cough and apoplexy, were the only important causes showing increase.

Dr. J. A. Egan, secretary of the Illinois State Board of Health, reports the written examination held in Chicago, Jan. 15, 17, 1908. The number of subjects examined in was 16; total number of questions asked, 100; percentage required to pass, 75. The number of candidates examined was 29, of whom 23 passed and 6 failed. The following colleges were represented:

PASSED.

College.	Year Grad.	Total No. Examined.
Arkansas Industrial University	(1891)	1
Georgetown University	(1896)	1
American Medical Miss. Coll.	(1, 1906); (2, 1907)	3
Illinois Medical College	(1, 1906); (2, 1908)	3
Jenner Medical College	(1906)	1
National Medical University	(1907)	1
Northwestern University	(1, 1899); (1, 1907)	2
Rush Medical College	(1907)	3
Hospital College of Medicine, Louisville	(1907)	1
Harvard Medical School	(1896)	1
Barnes Medical College, St. Louis	(1906)	1
University Medical College, New York	(1890)	1
Medical College of Ohio	(1891)	1
Western Pennsylvania Medical College	(1907)	1
Jefferson Medical College	(1906)	1
College of P. and S., Edinburgh, Scotland	(1905)	1

FAILED.

Illinois Medical College	(1908)	1
Jenner Medical College	(1907)	1
National Medical University	(1906)	1
Indiana Medical College	(1907)	1
Barnes Medical College, St. Louis	(1906)	1
St. Louis College of P. and S.	(1896)	1

NEW INCORPORATION.

Epi Dermo Medicine Company, Eldorado; capital $50,000; sell proprietary medicines; incorporators, S. W. Latham, R. Gregg, J. H. Scott.

CHANGE OF LOCATION.

Dr. J. W. Woolston, of Chicago, has removed to Dell Rapids, S. D.

Dr. W. S. Faulds has removed from 4215 Commercial Avenue, Chicago, to Gary, Ind.

Dr. Herbert A. Potts has returned from Vienna and opened an office at 103 State Street, Chicago.

Dr. J. A. Asay, of Rock Island, has moved his office to the new Safety Building, Third Avenue and Eighteenth Street.

Dr. Watson W. Gailey has removed from Jacksonville to Bloomington and taken offices in the Griesheim Building. He will confine his practice to diseases of the eye, ear, nose and throat.

Dr. Raymond Custer Turck announces his removal from Chicago to the Consolidated Building, Jacksonville, Fla., where he will practice surgery and consultations. Dr. Turck at one time had charge of the sanitarium at Alma, Mich.

MARRIAGES.

George W. Bronson, M.D., to Miss Minnie C. Nater, both of Streator, Ill., February 5.

Paul R. Badger, M.D., to Miss Stella Fink, both of Kankakee, Ill., February 20.

Charles W. Johnson, M.D., to Miss Elizabeth B. Hayes, both of Litchfield, Ill., February 9.

DEATHS.

William Mislap, M.D., University of Vienna, Austria, 1876; died at his home in Chicago, February 6, aged 80.

John H. Yanaway, M.D. (Years of Practice, Ill.), 1877; died at his home in Toledo, Ill., January 24, aged about 80.

William Cavins, M.D. (years of practice, Ill.), 1877; died at his home in Raritan, Ill., February 5, from pneumonia, aged 71.

Onesimus Michaud, M.D., Bennett College of Eclectic Medicine and Surgery, Chicago, 1875, of Clifton, Ill., died at L'Ebrale, Ill., February 13.

James J. Rowe, M.D., Eclectic Medical Institute, Cincinnati, 1858; died at his home in Abingdon, Ill., February 29, from paralysis, after an illness of 5 years, aged 76.

William S. Bryan, M.D., Rush Medical College, Chicago, 1882, died at his home in Cambridge, Ill., March 5, from pneumonia, after an illness of three weeks, aged about 50.

Adolph P. Bernhardt, M.D., National Medical University, Chicago, 1901; a member of the Illinois State and Chicago Medical societies; died at his home in Chicago, February 21, aged 41.

Rufus M. Elliott, M.D., Rush Medical College, Chicago, 1860; for 25 years a practitioner at Mackinaw, Ill., died at his home in Pekin, Ill., February 15, from pneumonia, after an illness of one week, aged 70.

WILLIAM C. REEVES, M.D., Rush Medical College, Chicago, 1885, for five years surgeon of the Burlington System, Omaha; died at his home in Ivesdale, Ill., February 12, after an illness of two weeks, aged 43.

SAMUEL JEFFREY AVERY, M.D., Rush Medical College, Chicago, 1864; a member of the Illinois State and Chicago Medical Societies; died suddenly at his home in Chicago, February 15, from heart disease, aged 45.

E. HUDSON SAMMONS, M.D., Rush Medical College, Chicago, 1880; a member of the American Medical Association; died at his home in Chicago, March 5, from heart disease, after an illness of ten days, aged 58.

THEODORE W. HEUCHLING, M.D., University of Würzburg, Germany, 1864; physician of Cook County in 1890, and appointed U. S. Pension Examiner by President Cleveland, died at his home in Chicago, February 11, aged 67.

DAVID NIRKHOFF, M.D., Rush Medical College, Chicago, 1891; a member of the Illinois State and Cook County Medical Societies; a prominent member of the Holland Society; died at his home in Chicago, February 9, aged 51.

GEORGE F. COUTANT, M.D., Hahnemann Medical College and Hospital, Philadelphia, 1872; coroner of LaSalle County, Illinois; a member of the city council of LaSalle and visiting physician to St. Mary's Hospital; died at his home, March 3, after an illness of about six months, aged 69.

JONATHAN DEARBORN, M.D., Mt. Sterling, Ill., March 18, 1908. Dr. Dearborn was a pioneer of Brown County, and practiced medicine there after his graduation from the Missouri Medical College in 1849. He was over 80 years of age. His sons, Dr. Henry and Dr. Charles B. Dearborn, survive him.

ORIN C. LAMB, M.D., Hospital College of Medicine, Medical Department, Central University of Kentucky; Louisville, 1893; a member of the American Medical Association; local surgeon at South Chicago of the Chicago City Railway Company; died suddenly, March 12, while leaving his office to answer an emergency call, aged 52.

ROME V. WAGNER, M.D., Central College of Physicians and Surgeons of Indiana, Indianapolis, 1889; of Chicago; for one year a practitioner, and thereafter engaged in the manufacture of electric apparatus and appliances for physicians' use; president of the R. V. Wagner Company; who was operated on in December and again in January for cancer of the face and neck, due to prolonged *x*-ray exposure; died from secondary carcinoma of the liver, March 12, at Passavant Memorial Hospital, Chicago, aged 38.

ILLINOIS STATE MEDICAL SOCIETY

MEDICO-LEGAL COMMITTEE.

EXECUTIVE COMMITTEE.

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W. L. Noble, 100 State St., Chicago.
M. L. Winstead, Wetaug, Ill.
E. W. Weis, Ottawa, Ill.

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J. B. Cobb, 42 Madison St., Chicago. Central 32.

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